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A Social Cognitive Analysis of Stereotyping

Cathryn M. Noseworthy
University of Rhode Island

A SOCIAL COGNITIVE ANALYSIS OF STEREOTYPING

BY

CATHRYN M. NOSEWORTHY

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Abstract

The present investigation applied a social cognitive approach to stereotypes. The emphasis of this approach on the limitations of the information processor, focuses on the mechanisms people employ to cope with vast amounts of information input and the biases inherent in such mechanisms. One of the most pervasive of these mechanisms , categorization, is also an essential element to stereotyping. Consequently, this approach leads to a view of stereotypes as categorization schemas with attributes such as race or sex tagged to category labels. This position was explored using the female sex-role stereotype as an exemplar. The structure and content of stereotypic categorization schemas were examined in a series of eight studies.

Stereotypic categories and their attributes were delineated solely from subject-generated protocols, which were obtained without imposing "a priori" restrictions on subjects as to number, type or content of stereotypic categories. This free-format methodology yielded remarkably consistent results. Five stereotypic categories of women emerged; housewife, career woman, sex object, female athlete and women's libber. Examination of the attributes that subjects used to describe these roles indicated that the first four roles were quite distinct. This was confirmed by factor analysis of a sex-role scale which

incorporated the most frequently used attributes for each role.

The structural organization of stereotypic categories was also examined and was found to be essentially the same as that reported for other person and object categories.

The mediational function of stereotypic schemas was assessed in two studies. In a recognition memory paradigm, stereotypic categories were found to bias memory toward the stereotype, while in a free-recall task, stereotypic attributes appeared to be grouped together in memory.

These data clearly support the social cognitive interpretation of stereotypes as categorization schemas that facilitate our information processing, albeit in a biased fashion. They provide converging evidence for the utility of a social cognitive approach to stereotypes both conceptually and methodologically.

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Introduction

Recent interest in social cognition has led to the direct and explicit study of cognitive processes involved in person perception phenomena (Abelson,1976; Cantor & Mischel,1979; Hamilton,1976;1979; Hamilton, Katz & Leirer,1980; Hastie & Carlston,1980; Hastie,1980; Schank & Abelson,1977; Srull & Wyer,1980; Taylor & Fiske,1978; Wyer& Srull,1980). The result has been a conceptualization of and approach to person perception that emphasizes process, rather than end-points ; active, dynamic aspects rather than static ones; and the limitations of the information processor in attempting to process the vast amounts of incoming information (Schneider, Hastorf & Ellsworth,1979).

Interest in the implications of this approach for the study of stereotypes is currently emerging. Historically, stereotyping has been discussed in terms of motivational, dynamic factors and/or social-learning and acculturation processes (Brigham,1971; Hamilton,1976). In contrast, the social cognitive approach views stereotyping as a result of biases in the way we process information about others, i.e., normal cognitive functioning can produce differential perception of people/groups (Cantor & Mischel,1979; Hamilton,1976;1979; Taijfel, Billig, Bundy & Flament,1971; Taylor & Fiske,1978).

In particular, central characteristics of our

cognitive processing mechanisms produce systematic biases that can explain stereotyping quite well. These include the categorization process, responsiveness to stimulus salience and the development of illusory correlations. From a cognitive point of view, these mechanisms are means of reducing the enormous complexity of the social world. They are highly functional processes that lend organization to the social environment and probably the coding and retention of information about it (Fiske, Etcoff & Ruderman,1978; Hamilton,1979).

1. The Categorization Process and Prototypes

Of these mechanisms, the most essential element to stereotyping is categorization. Differential perception, an obvious prerequisite to stereotyping, involves the categorization of people into a variety of groupings (Cantor & Mischel,1979; Ehrlich,1973; Hamilton,1979). Indeed, the tendency to categorize both objects and people into groups or types is a pervasive one (Allan & Wilder,1975; Bem,1978; Cantor,1978; Cantor & Mischel,1979; Cohen,1977; Fiske & Cox,1977; Hamilton, Katz & Leirer,1980; Hastie,1980; McGuire, McGuire , Child & Fujioka,1978; Mischel, Jeffrey & Patterson,1974; Quine,1969; Rosch, Mervis, Gray, Johnson & Boyes-Braem,1976). Rosch and her colleagues (Rosch,1975;1978; Rosch & Mervis,1975; Rosch et al, 1976) have conducted extensive research on the structure and

function of object categorization and have found that such systems are organized in hierarchical taxonomies that consist of three levels of abstraction /inclusiveness (See Fig.1). The optimal level of abstraction in such taxonomies appears to be the middle level, since it represents the intersection of maximum detail and minimum cognitive effort. This moderate level conveys a rich set of information about the objects within the category using a few category labels, while minimizing the cognitive effort involved in making too many fine discriminations.

Natural object categories, as studied by Rosch and her colleagues, appear to represent "fuzzy sets", that is, members of a category vary in degree of membership (prototypicality) with many ambiguous, borderline cases resulting in overlapping and fuzzy boundaries between categories (Lakoff,1972; McCloskey & Glucksberg,1978; Rosch,1975).

Categories, then, are organized around prototypical members (clear, central exemplars), with less prototypical members forming a continuum away from the central prototypical members (Rosch,1975). Since categorization represents a probabilistic decision based on degree of prototypicality, it is best studied using clear, central exemplars rather than ambiguous,borderline cases. Such prototypes are especially useful in processing incoming information, since they appear to be easier to learn, to classify, to name and to image (Rosch,1976; Rosch &

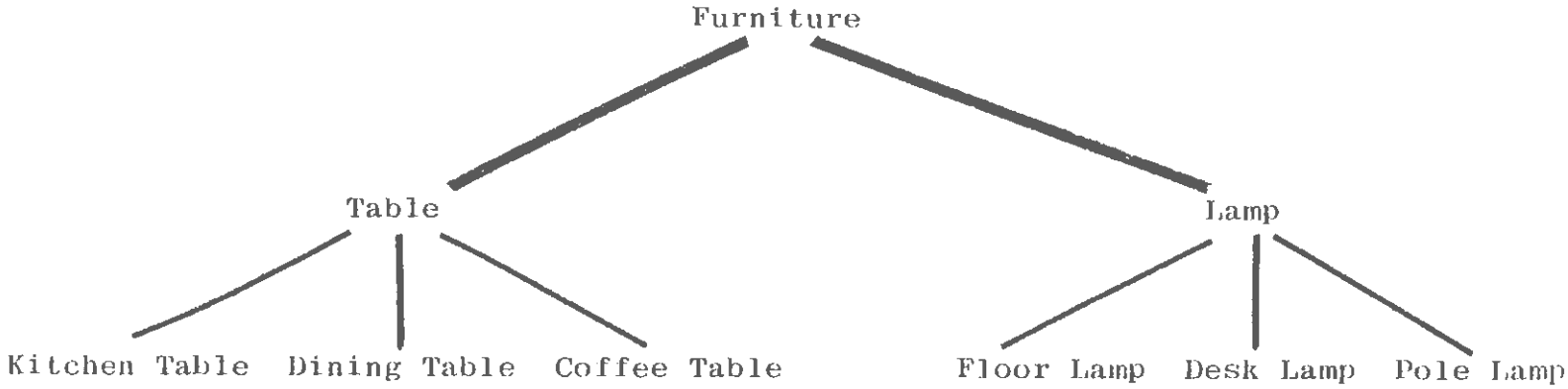

Fig. 1. An example of a common object taxonomy

Mervis,1975; Tversky,1977). Categorization schemes in the object domain, then, serve to simplify what would otherwise be overwhelming data and thence to lend economy and coherence to our knowledge about the world.

In the person domain, studies of how people freely describe and type one another also suggest the extensive use of categorization schemes (Abelson,1976; Bem,1978; Cohen,1977; Fiske & Cox,1977; McGuire et al,1978). Rosch's procedures have been adapted to explore the structure of categorization schemes in the person domain (Cantor,1978; Cantor & Mischel,1979). These researchers constructed a variety of person taxonomies based on social and occupational roles, personal attributes and psychiatric disorders that were frequently used by naive observers and that varied in levels of abstraction (See Fig. 2). At the superordinate level, they began with four categories, the extraverted person, the cultured person, the emotionally unstable person and the person committed to a belief. For each of these, two middle and six subordinate level items were constructed by the experimenters, which contained less inclusive categories, by drawing on categories used in everyday conversation and in the social psychological literature on stereotyping and categorization.

To verify the hierarchical structure of these four taxonomies, Cantor and Mischel (1979) had five judges sort the categories using a card sorting task. First, the judges placed all items under the four superordinate labels, then

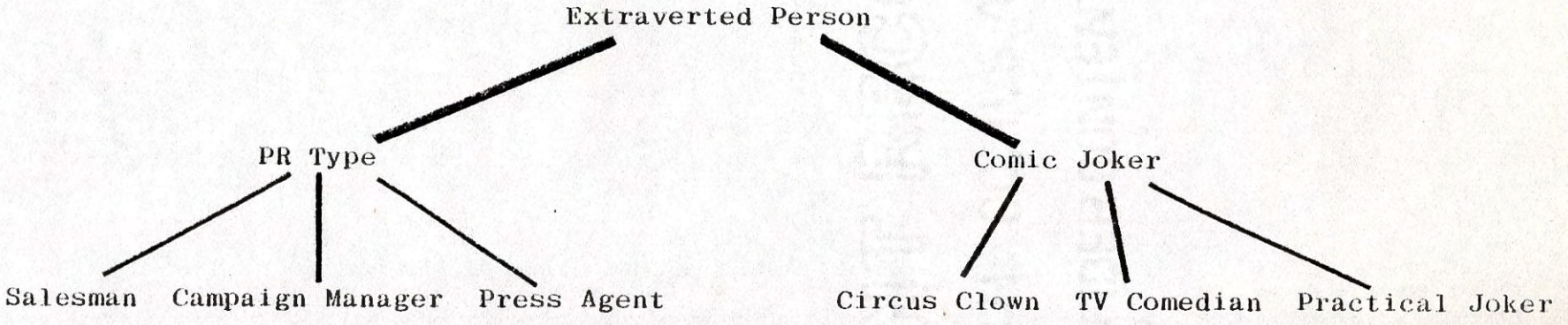

Fig. 2. An example of a person taxonomy

they subdivided each pile into as many smaller, less inclusive categories as they felt existed in each of the four units. Hierarchies with three levels of inclusiveness thus resulted. As expected, when the data were submitted to a hierarchical cluster analysis, the person categories clustered appropriately into subordinate and middle level categories under the four superordinate types. Following Rosch et al (1976), the basic level categories were determined by having subjects list the attributes that they believed to be characteristic of and common to the members of each category within the person taxonomies. Resulting attribute lists were scored for consensus and attributes retained that at least two subjects had listed. These lists were then given to four judges who rated the percentage of members of the category for which each attribute would be true. Final lists that received a mean rating of 50 per cent across the four judges were then compiled. The 50 per cent inclusion level was used to reflect the inherently "fuzzy" nature of category boundaries.

Final lists were examined for relative richness(number of attributes) at each taxonomic level. Increasing gains in number of attributes were found from superordinate to middle to subordinate levels, the last maximizing vividness and concreteness of the images associated with it. The opposite pattern was found for levels of differentiation. Categorizations at the superordinate level were the most differentiated, that is,

non-overlapping, those at the middle level next, and those at the subordinate level the least differentiated.

Cantor and Mischel (1979) concluded that, like object categorization, person categorization has as its basic/optimal level the middle level of inclusiveness and abstraction. This level maximizes the intersection of richness, differentiation, and vividness while reducing the cognitive load entailed in distinguishing too many categories. This level should be optimal in describing what a person is like in general, to distinguish how two people differ from each other and to apply one's knowledge of person types to flesh out an impression of a particular person. In contrast, to capture the gist of a person, one would move to a higher level of abstraction while to gain a more vivid,specific image, one would move to a lower level.

The assignment of individuals to a particular category appears to be based on a judgement of the degree of prototypicality. Since categories in both the object and person domain represent essentially "fuzzy sets" without clear-cut boundaries, the distinctiveness of categories seems to be achieved by considering the category's clear instances rather than its boundaries (Cantor,1978; Rosch,1978). Cantor(1978) examined prototypicality judgements by asking subjects to describe as fully as possible the attributes of extraverts they knew well and considered to be poor, moderate and good examples of that prototype. The descriptions were read by another group of

subjects who rated the attributes for degree of prototypicality with respect to extraversion. The descriptions and ratings were highly correlated (r =.87) and prototypicality judgements were related to the number of associations with the category and differentiation from contrasting categories. Similar results have been reported for object judgements (Rosch & Mervis,1975; Tversky,1977).

When only scant evidence is available, prototypicality judgements appear to be made on the basis of central category attributes. Cantor and Mischel(1979) asked subjects to choose the more prototypical extravert from among six pairs of characters, that varied in the number of episodes in which they showed prototypic versus less central category attributes. Subjects consistently chose the character who exhibited the more prototypical attribute.

On the basis of the extensive research program reviewed here, Cantor and Mischel(1979) have argued that prototypes function as cognitive schemas in processing information about others. Association with a prototypical category exemplar acts as an organizational theme that structures the encoding of new information about the person, provides expectations about future behaviour and aids in the retrieval of information about that person. The more a person fits a prototype, the more easily information about that person is categorized, recalled and recognized.

2. Function of Categorization Schemes

Considerable evidence from cognitive psychology supports the claim that people learn and remember information by actively categorizing and coding input according to well-learned conceptual schemata abstracted at the time of input (Franks & Bransford,1971; Posner & Keele,1968; Reed,1972; Reitman & Bower,1973). For example, Posner and Keele(1968) and Reed(1972) have shown that subjects in a classification learning paradigm abstract a prototypic visual pattern which is then used as a standard against which to compare new patterns. In a recognition memory task, subjects falsely recognize items that closely resemble the abtracted prototype (Franks & Bransford,1971; Posner & Keele,1970; Reitman & Bower,1973). Schank and Abelson (1977) and Minksy (1975) have demonstrated the existence of conceptual schemata for everyday behavioural episodes. Their work suggests that people use these schemata to generate missing information in order to fill out an anticipated schema of events.

Evidence indicates that person prototypes function in a similar manner. Cantor and Mischel (1977) presented subjects with trait lists describing a prototypic extravert, introvert and two control characters. These were presented under either explicit conditions (the prototype was named) or implicit conditions (the prototype was not mentioned). On a recognition memory task, subjects exhibited a clear

memory bias consistent with the prototype, expressing greater confidence that they had seen non-represented but conceptually related items as opposed to non-represented, unrelated items. This effect was not found for the control characters. Similarly, in a free recall paradigm, Cantor and Mischel (1979) manipulated the degree of prototypicality of stimulus characters. On a free recall task, subjects recalled more information consistent with the prototype when the stimulus character was a "good" exemplar than when the character was less prototypical. They also wrote more in personality impressions of a prototypic character than a less prototypic character. These data suggest that prototypes do function as schemata and that a comparison-to-prototype process is involved in processing social stimuli when the prototype is activated.

Tsujimoto (1978) replicated these findings using both different prototypes and different procedures. He constructed three prototypes; a positive prototype, consisting of six positive traits; a negative prototype, consisting of six negative traits; and a novel prototype, consisting of three positive and three negative traits. Through systematic transformation or deletion of traits, he constructed a set of acquisition lists that varied in degree of similarity to the prototype lists. The original prototype lists were not presented but they were the most typical exemplars of the acquisition list sets. In a recognition memory task, recognition confidence was a

positive, linear function of the degree of similarity to the prototype list and was highest for the prototype list. Since subjects were not presented with the prototype lists during acquisition, they must have abstracted, as opposed to simply memorized, the prototype. Moreover, this finding was true of the novel prototype, indicating that prototype abstraction operates across a wide range of contexts rather than just those in which the prototype is normative. These data provide strong converging evidence for the mediational function of prototypes.

3. Locus of the Biasing Effects of Categorization Schemes

Several investigators have attempted to determine how the comparison-to-prototype process systematically biases memory. Duncan (1976) showed subjects a videotape of a woman having dinner. Half of the subjects were told that she was a waitress , the other half that she was a librarian. When asked to recall factual information about the tape (e.g., did the woman wear glasses? drink beer or wine?), subjects were most accurate when the information to be recalled was consistent with the prototype they had been given. These results suggested that the biasing effect occurred during the encoding stage, with information being coded in terms of the activated prototype.

A more direct test of the locus of the biasing effect of prototypes on memory was performed by Rothbart, Evans and

Fulero(1979). They gave subjects behavioural descriptions of either a "friendly" or "intellectual" group of men. For half of the subjects, this expectancy was induced prior to the presentation of behaviours, while the other half received the expectancy afterwards. Subjects showed superior recall and higher frequency estimates of behaviours that were consistent with the prototype but only when the expectancy was induced prior to stimulus presentation, again indicating an encoding bias.

Wyer and Srull(1980) also reported an encoding bias of category information on memory. They induced a category expectancy (i.e., hostility) by having subjects initially complete a sentence construction task in which all terms implied hostile behaviours. Subjects also read a description of behaviours of a target person that were ambiguous with respect to the primed category and rated the target person on a number of trait dimensions. The number of hostile-related behaviours, time between priming the trait category and presentation of the behavioural descriptions and time between descriptions and judgements, were varied. Results showed that when subjects experienced delay between activation of the trait category and acquisition of the stimulus material, their ratings of the target person in terms of the primed category increased with the number of times the category had been activated but decreased with length of delay. In contrast, when the delay was between stimulus presentation and making a judgement,

target ratings in terms of the primed category increased with both number of activations and length of delay. None of these effects occurred in a further condition, in which the trait category was activated after information had been encoded into memory (i.e., after presentation of the behavioural descriptions). These data suggest that the categories used to interpret behaviour depend on the accessibility of categories at the time the information is received. Information appears to be encoded in terms of activated trait categories, which then influence subsequent judgements since they represent how the information is coded in memory.

In a similar study, Higgins, Rholes and Jones(1977) reported that priming a trait category (e.g.,reckless, persistent) leads to judgements of a target in terms of that category. Like Wyer and Srull(1980), they found that the delayed effect of priming was greater than its immediate effect on judgements. In both of these studies, the categories were unobstrusively primed, indicating the powerful biasing effect of prototypes on processing information about others.

Although the majority of studies suggest an encoding bias of prototypes on person memory, there is some indication that category information can also bias retrieval. Synder and Uranowitz(1978) gave subjects a detailed case history of a character named "Betty" to read and, one week later, asked them to recall information about

the case history. At that time, they were told that "Betty" was either a lesbian or was leading a heterosexual lifestyle. Information recalled tended to be consistent with the prototype subjects had been given.

The biasing effects of categorization schemes and prototypes on processing information about others, then, are well documented and their application to the study of stereotypes evident. A stereotype may, in effect, be a form of a prototype, a functional schema that aids in organizing and interpreting information about others. A number of recent studies have examined this proposition.

4. The Role of Stimulus Salience

Taylor, Fiske, Close, Anderson and Ruderman(1977) have shown that physical and social discriminators, such as sex and race, are used as ways of categorizing people and organizing information about them. They had subjects observe a group discussion of racially or sexually mixed groups and then asked them to recall who had said what during the discussion. If race was used to categorize incoming information, then subjects should make more intra-race errors than inter-race errors. The same prediction would be made for sex. Results supported these hypotheses. Taylor et al(1977) interpreted these results in terms of salience effects since it is well known that

salient stimuli attract our attention and stereotypes usually involve especially salient stimuli (e.g., sex, race,etc.).

In a further study, Taylor and Fiske(1978) manipulated salience via numerical distinctiveness (i.e., black solo/white group; female solo/male group,etc.) and found that salient individuals were seen as more prominent and were rated more extremely than the same individuals in integrated groups. Solo men and women were more likely to be perceived in special roles than those in mixed groups. Moreover, these roles were highly sex-typed. Field studies of solo women in work organizations (Kanter,1977; Wolman & Frank,1975) also found that such women were seen as playing out highly sex-typed roles. It appears that salience, by virtue of category membership, increases perceptions of category representativeness, e.g., a solo woman or black is often seen as being typical of the entire sex or race. Indeed, Guritz and Dodge(1977) found that mere mention of membership in a group (i.e., a sorority) increased stereotypic attributions to individual members.

5. The Role of Illusory Correlation

Research on illusory correlation has also demonstrated cognitive biases in our information processing. Hamilton and Gifford(1976) presented subjects with 39 stimulus persons, each described performing some behaviour.

Each person was simply identified as belonging to Group A or B, Group B always being smaller than Group A. A majority of positive behaviours, in a ratio of 9:4 positive/negative, was presented for both groups. As a result, Group B and negative behaviour were distinctive because of their lower frequency of occurrence. When subjects were asked to estimate the occurrence of positive/negative behaviours for each group, they overestimated the co-occurrence of negative behaviours with the smaller group. Even though the relative frequency was the same for both groups, the shared distinctiveness of negative behaviours and minority status resulted in the formation of an illusory correlation. Furthermore, the illusory correlation led to the differential evaluation of the two groups, with the minority group being judged as less desirable. In a further study, Hamilton and Gifford(1976) replicated these findings with positive behaviours being distinctive, i.e., a positive illusory correlation formed with Group B and subsequent evaluation of Group B as more desirable than Group A.

Such biases can also serve to maintain previously developed beliefs. Hamilton and Rose(1980) had subjects read trait descriptions of various occupational groups that varied in being confirming, neutral or disconfirming with respect to the stereotypic conception of the occupation. When subjects were asked to estimate the frequency of traits associated with each occupation, they overestimated the frequency of confirming traits, even though all trait types

occurred with equal frequency. When a relationship did exist, subjects perceived it to be stronger if it confirmed the stereotype. These results parallel those reported earlier that indicated superior recall for expectancy confirming rather than disconfirming events (Rothbart et al,1979).

6. Cognitive Bias and Stereotypes

It appears, then, that factors related to the categorization of, attention to and processing of information about social stimuli can result in social judgement patterns similar to stereotyping. Selectively attending to salient aspects of the environment leads to exaggerated evaluations and perceptions of prominence, and stereotypes are frequently characterized by especially salient stimuli such as sex, race, or minority status. The cognitive processes by which individuals develop correlational concepts are also subject to considerable bias, and stereotypes reflect correlational beliefs. The formation and use of categorization schemes have also been shown to lead to biased coding and retention of social information, and stereotypes appear to operate like other categorical systems, with attributes such as sex and race tagged to category labels or prototypes.

The extension of this approach to the study of the content and structure of stereotypes, however, has thus far

received little attention. Moreover, the approach should be applicable to any stereotype area. The sex-role stereotype was chosen as a stereotype exemplar for a number of reasons. The issue of content and structure is particularly relevant to sex-role stereotypes, since research and measurement devices in this area are based on the implicit assumption that sex stereotypes represent a single category for each sex that conform to the traditional roles of males and females. The female stereotype forms a warmth-expressiveness cluster and the male stereotype a competency-instrumental cluster of traits (Broverman, Vogel, Broverman, Clarkson & Rosenkrantz,1972; Kelly & Worell,1977; Pedhazur & Tetenbaum,1979; Pleck,1975; Ruble & Ruble,1980).

Recently, however, the single category assumption has been challenged. Clifton , McGrath and Wick(1976), based on a review of the family literature (e.g., Kluckholm,1953; Turner,1970) and interviews with college students and middle- class suburbanites, identified five sex-role categories for women; housewife, bunny, clubwoman, career woman and woman athlete. They presented college subjects with an adjective checklist and asked them to check those which described each of the five categories. If there was a single stereotype of women, then all five role categories should elicit common adjectives. Instead, however, they found that subjects attributed quite distinctive adjectives to the various roles. In particular, they found strong

evidence of a distinctive stereotype of the housewife role whose content paralleled the traditional sex-role stereotype results. In addition, two other distinctive stereotypes emerged, one for bunny and the other encompassing more non-traditional alternatives such as career woman and athlete. Unfortunately, the Clifton et al(1976) study employed a predetermined checklist, so that subjects were limited in the response they could make. Moreover, the adjectives were selected by the researchers rather than being generated from subjects' responses.

This is important since it has been shown that the format and methods used to elicit stereotypes can influence the results obtained (Brannon,1978; Erlich & Rinehart,1965; Cicone & Ruble,1978). For example, Erlich and Rinehart(1965) compared responses on a checklist to a free-response format about ethnic stereotypes. They found that the checklist data contained three times as many attributes as the free-response data, but was less substantively cohesive and included more negative traits. Moreover, the trait lists obtained under the two conditions were considerably different.

It appears that the widely accepted content of sex-role stereotypes may be more a function of the methodology employed than a reflection of reality. If you ask subjects to describe a single stereotype, they will; if you ask them to describe several subcategories, they also oblige. Clearly, the content of sex-role stereotypes needs

to be assessed from a different perspective. At the same time, examination of the mediational function of sex-role stereotypes would extend the categorization model and would provide further support for the social-cognitive approach to the study of stereotyping.

The present investigation, therefore, was an attempt to extend the perspective and methods described here to the study of stereotypes, using the female sex-role stereotype as the exemplar. Specifically, the research was designed to examine the cognitive content, structure and function of the female sex-role stereotype. The following questions were addressed:

1. What is the content and cognitive organization of the female sex-role stereotype, i.e., is it organized in a similar fashion to other person prototypes in a hierarchical taxonomy? What is the basic/optimal level category that maximizes information/cognitive economy?
2. Do sex-stereotypic categories function as cognitive schemas to organize, code and select person information, i.e., do they mediate memory and perceptions about others?

I. The Cognitive Structure and Content of the Female Sex-role Stereotype

Study 1. Construction of Stereotypic Categories

Both Rosch's(1976) and Cantor's(1978) procedures to study the structure of categories began with "a priori" taxonomies of object and person categories, which may be unnecessarily artificial. This is especially true with categories that have real social consequences, such as sex stereotypes, where it is an important issue in and of itself to examine the validity of the content of the category. It was necessary, therefore, to assess whether subjects' conceptions of the stereotype were those that researchers have implicitly and explicitly assumed. The method described here represents a major departure fom previous work, in attempting to construct both stereotypic categories and their attributes from subjects' responses. Study 1 was designed to determine the stereotypic category(s) that people use to describe women.

Method

Subjects

Subjects were 193 college freshmen, 103 females and 85 males with a mean age of 18, randomly selected from the introductory psychology class. This course has an enrollment of approximately 1500 students taught in classes of about 35. Subjects participated as part of the course experience although they could opt out if they wished to do so.

Procedure

Subjects were tested in class groups of approximately 33 each. The Experimenter, who was a female for half of the groups and a male for the other half, explained that the research concerned how people describe each other and that they would be asked to respond to one question about women; that there were no right or wrong answers; and that the researchers were interested in their opinions. Subjects were then given five minutes to respond to the following statement, distributed to each of them:

> "Name as many different types of women as you can. You should have a sufficient number of types that each woman could fit into at least one category."

Age and sex of each subject were also recorded. The resulting protocols were scored for consensus, by an

independent rater, with a category to be retained if at least 50 per cent of the subjects listed it. The 50 per cent inclusion level was chosen to be consistent with the "fuzzy" nature of categories found in both object and person categorization (Cantor,1978; Rosch,1976).

Results

The results of the protocol analysis indicated that approximately one-third of the subjects listed only traits (e.g., emotional, assertive,etc.), one-third listed types (e.g., soap-opera sals, feminists,etc.) while a further one-third listed both traits and types (See Appendix I, Table 1). A chi square contingency analysis indicated that there were no sex differences in the type of category employed (X^2=2.23, df=2,N.S., See Appendix I, Table 1). The listing of traits and traits/types was not surprising, considering the deliberately ambiguous nature of the instructional set. Unfortunately, providing such structure would have artificially channeled subjects' responses. Subjects who listed only traits were therefore excluded from further analyses.

Consensus scoring of the remaining 66 per cent (n =131) indicated that subjects listed an average of 8.10 attributes and 4.89 types. There were no sex differences evident in either the number of attributes or types that subjects generated (See Appendix I, Tables 2 and 3) although there was considerable individual variation , particularly in the number of attributes listed as compared to the number

of types, as indicated by the large standard deviations for the former.

The results of the consensus scoring are presented in Table 1, which shows that five categories met the 50 per cent inclusion criterion; they were housewife, career woman, sex object, female athlete and women's libber (All categories listed by subjects are presented in Appendix I, Table 4). A number of terms that were interpreted as synonymous with these categories and therefore included in the frequency analysis are also shown in Table 1.

The first three categories of housewife, career woman and sex object were by far the most frequent terms used to describe these roles. However, choice of the last two role names, female athlete and women's libber, was more subjective, since other synonyms were used almost as frequently and these two categories barely met the 50 per cent inclusion criterion. As such, they are probably not as strong nor as clearly defined as the other three.

The categories did, however, agree quite well with those generated by the Clifton et al(1976) study. In fact, with the exception of the women's libber category, they are identical. Thus, there is corroborative evidence for the validity of four of the five roles.

Table 1. Categories of women that met the 50 per cent listing criterion.

Category	Synonyms Included	Per Cent Listing
Housewives	Homemakers	65
	Traditional women who stay home	
	Domestic women	
Career Women	Professional women	60
	Career-oriented women	
	Executive-types	
Sex Objects	Sexy women	57
	Seductive women	
	Glamour girls	
	Dumb blonde types	
	Teasers	
	Nymphs	
Women's Libbers	Women's rights activists	50
	Liberated women	
	Women protestors	
	Feminists	
Female Athletes	Sporty types	50
	Jockettes	
	Female jocs	
	Sportswomen	

Study 2. Construction of Stereotypic Sub-categories

The next phase of constructing stereotypic categories attempted to define subordinate categories subsumed by the roles of housewife, career woman, sex object, female athlete and women's libber. That is, would people identify still more specific categories by subdividing these roles? Essentially the same design as in Study 1 was employed to answer this question.

Method

Subjects

Subjects were 87 college freshmen, 41 males and 46 females, randomly selected from the same introductory psychology course pool as described previously.

Procedure

Subjects were tested in class groups of approximately 30 each. The procedure was the same as that described in Study 1. Subjects responded to the following statement:

> " List as many different types of the following categories of women as you can (i.e., can you think of different kinds of career women? housewives? women athletes? sex objects? women's libbers? List them below.)"

The resulting protocols were scored for consensus by an independent rater to determine the number of categories that at least 50 per cent of subjects listed.

Results

There was a significant difference in the number of subjects who categorized the five female roles on the basis of types (e.g., cook-cleaner, business woman,etc.), traits (e.g., nosey, beautiful,etc.) or both (X^2=74.36, df=12, P<.01), in contrast with the previous task for women. As can be seen in Table 2, the vast majority of subjects classified the roles on the basis of types. This was an apparently easier task than listing types for women, probably because the roles of housewife, etc. were less abstract and instances of them could be more readily imagined.

Table 2. Number of subjects who classified 5 female roles on the basis of types, traits or both.

Role	Classification category				Total
	Types	Traits	Both	No resp.	
Career Woman	79	2	6	-	87
Housewife	64	11	11	1	87
Female Athlete	71	7	6	3	87
Sex Object	66	11	7	3	87
Women's Libber	41	19	9	18	87

It is also interesting to note that the libber category had a much greater number of no respondents than the other categories. Subjects had greater difficulty subdividing this role, a point evidenced by later studies.

As in the previous task for women, no sex differences were evident (See Appendix II, Table 1).

The total and mean number of subcategory types listed for each of the five female roles are presented in Table 3 (See also Appendix II, Table 2 for this analysis by sex).

Table 3. Total number and mean number of types listed for 5 female roles.

Role	Total No.	Mean No. (X)	S.D.	N(Ss)
Career Woman	589	6.77	4.46	87
Housewife	215	2.65	1.22	81
Female Athlete	368	4.49	3.38	82
Sex Object	214	2.64	1.54	81
Women's Libber	143	2.13	1.15	67

Analysis of variance (subjects nested within category type x sex) indicated a significant main effect of category type ($F=39.085$, $df=4$, $P<.001$). Neither sex ($F=2.397$, $df=1$, 388, N.S.) nor the sex by category interaction ($F=1.426$, $df=1,388$, N.S.) were significant. Multiple comparisons of

the type main effect using the Scheffé procedure (Winer,1971) indicated that significantly more types were listed for the career woman (X=6.77) than for any other role and that significantly more types were listed for female athlete (X=4.49) than for housewife (X=2.65), sex object (X=2.64) and women's libber (X=2.13; Scheffé critical value at P<.05 level F= 1.964, df=4,393) The greater number of subtypes listed for career woman and athlete can be explained by the large number of professions and sports that subjects listed respectively. The other three roles were not amenable to such easily identifiable subcategories.

The total number of <u>different</u> subcategory types listed for each of the five roles is presented in Table 4.

Table 4. Total number of different subcategory types listed for 5 female roles by sex.

Role	Total Number Diff. Types Listed	Male	Female
Career Woman	34	26	30
Housewife	15	10	12
Female Athlete	36	27	29
Sex Object	24	18	19
Women's Libber	16	11	11

Again, there was greater variety in the types listed for career woman and athlete than for the other three roles ($X^2=15.36$, df=4, $P<.01$). It appears that the career woman and athelete roles are richer in both quantity and diversity of subtypes. It is also apparent from Table 4 that no sex differences occur in this trend.

The subcategories that met the 50 per cent inclusion criterion for each role are presented in Table 5.

Again, there was considerably less agreement in the libber category, with only two subcategories meeting the 50 per cent inclusion criterion. This is consistent with the lack of agreement within the libber category itself found in Study 1.

There was a high level of agreement across sex for all five female roles, in the content of subcategories. All subcategories listed by each sex are presented in Appendix II, Table 3.

The two most frequently listed subcategories for each role from Table 5 were selected as examples of subordinate categories to complete a taxonomy for further study.

Table 5. Subcategories listed for the 5 female roles that met the 50 per cent inclusion criterion.

Female Role	Subcategories Listed
Career Woman	Doctor
	Teacher
	Nurse
	Lawyer
	Business executive
Housewife	Cook-cleaner
	Caretaker of children
	Mother-type
	Working/non-working
Sex Object	Movie star/Actress
	Play-boy bunny
	Model
	Stripper
Woman Athlete	Swimmer
	Runner
	Tennis player
Women's Libber	Moderate committed to equal rights
	Radical supporter of women

Study 3. Validation of Female Sex-role Stereotype Taxonomy

The category-listing tasks resulted in the subject-generated taxonomy depicted in Fig. 3. The fact that the categories were constructed by subjects themselves lends credence to their veridicality. It remained, however, to assess the consensual agreement for the "hierarchical" relations among categories. This was done using a card-sorting task.

Method

Subjects

Subjects were 20 college freshmen, 11 females and 9 males, who participated as part of a class project.

Procedure

Each of the 5 middle categories and the 10 subordinate categories were individually typed on 3" x 5" cards. The resulting 15 card deck was randomly ordered. Each subject was given the following instructions:

> "Each of these cards refers to a female role or type. I want you to sort them into as many different types as you feel exist in the deck."

After this initial sort, subjects were told:

" Now, in each of the piles you have, see if there is one type/role that is more general than the others, that could subsume the others. If so, place it on top."

In this way, subjects should create a 2-level taxonomy only if they perceived such a relationship in the deck. Moreover, no constraints were placed on subjects as to the number that should be in each pile at either the middle or subordinate levels. The card-sorts, therefore, should indicate the validity of the middle level categories as well as the hierarchical relationship between these and the subordinate categories.

Results

Results of the card-sorting task provided strong validation for the taxonomy created in Studies 1 and 2. All subjects sorted the card deck into the appropriate five clusters representing the five middle level roles. Considering that subjects were not given instructions as to the number or type of categories they should have, as well as the fact that one might expect considerable overlap among female roles given the "fuzzy", overlapping nature of categories, this was impressive support for the distinctiveness of the dimensions reflected by the five middle level roles.

Moreover, 15 of the 20 subjects sorted all categories

according to the taxonomic structure presented in Fig. 3. Of the five subjects who did not, one female and one male included movie star under the career woman category, two females and one male sorted the libber category incorrectly, placing either the moderate or the radical at the middle level. The former response reflects the overlap mentioned previously while the latter is consistent with the difficulty subjects had with the libber role.

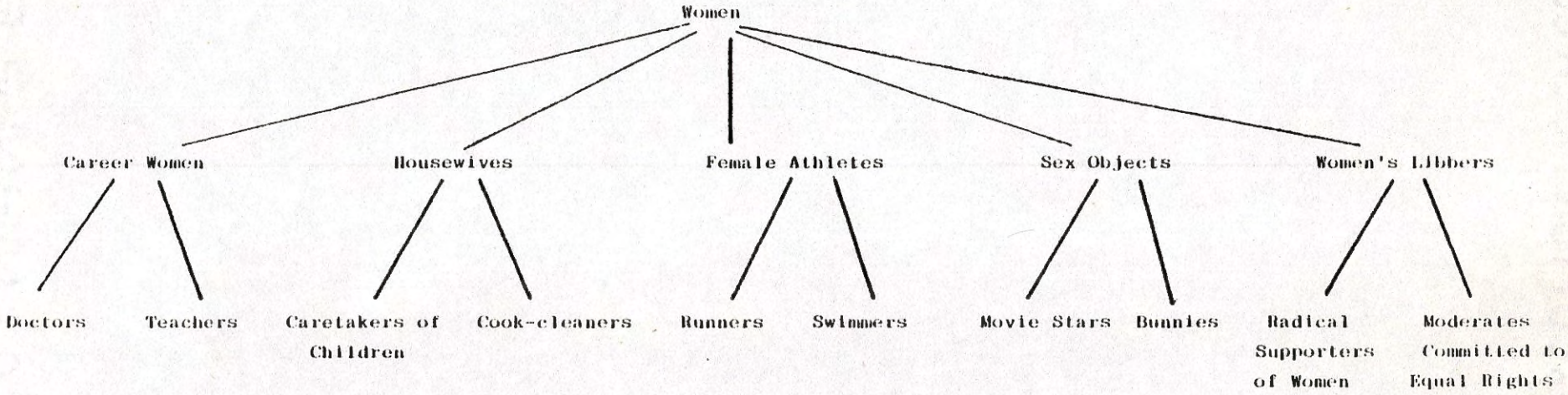

Fig. 3. Taxonomy of the Female Sex-role Stereotype.

Study 4. The Structure and Content of Stereotypic Categories

Given the strong empirical support for the taxonomic structure of the female stereotype, one of the main foci of the research could now be addressed. The present study was designed to examine the content and relations among stereotypic categories and to establish any correspondence with object and person prototypic categories. An attribute listing task was employed to provide these comparisons.

Method

Subjects

Subjects were 570 college freshmen, 308 females and 262 males, who were tested in class groups of approximately 35. Classes were randomly selected and subjects participated as part of the course experience but were free to opt out if they wished.

Procedure

The testing procedure was essentially the same as in Study 1. Each subject was asked to respond to the following statement, distributed to each of them:

> " List all the attributes/behaviours that you think are common to and characteristic of housewives (libbers, athletes, etc.)."

All categories within the stereotype taxonomy were tested and each subject responded to only one category, which was randomly assigned. Approximately 35 subjects responded to each category.

The resulting attribute lists were scored for consensus, with attributes being retained that at least two subjects listed. As a final refining stage, 20 subjects (10 males and 10 females), who were paid for their participation, and were from the same subject pool, rated the percentage of members of the category for which each attribute would be true. Each subject rated all categories in randomized order. Final attribute lists, consisting of attributes that had a mean rating of at least 50 per cent across judges, were then compiled for each category.

Results

The initial attribute lists, consisting of those that at least two subjects listed, were examined to determine if any sex differences occurred in the descriptions of the various roles. No differences were found in the number of attributes listed (female X=4.68; male X=4.71) nor in the content of the attributes, essentially similar attributes being listed by males and females. There was also no difference in the overall proportion of negative attributes assigned to roles, an average of 17 per cent negative attributes being assigned by each sex. The small percentage

of negative attributes is consistent with other research which shows that people describe others overwhelmingly in terms of positive traits (Osgood, Suci & Tannenbaum,1957), especially under a free-response format (Brannon,1978).

Inspection of the percentage of negative attributes assigned by males and females to each role category also revealed very similar results. There were only three role categories on which the sexes appeared to differ in this respect. They were housewife, women's libber and play-boy bunny. Females were much more negative (33 per cent negative responses) than males (13 per cent) about the housewife role (X^2test of proportions=5.95, df=1, P<.01). The opposite was true for libbers, with men being more negative (48 per cent) than women (18 per cent) (X^2test of proportions=9.90, df=1, P<.01). These differences probably reflect the resentment of many women toward the traditional roles and society's prevailing sanctions against untraditional roles such as that portrayed by libbers. Similarly, women's more negative descriptions of bunny (45 per cent) as compared to men (26 per cent) probably underscore these attitudes (X^2test of proportions=6.33, df=1, P<.01).

Overall, the dearth of sex differences is consistent with the previous studies in this series. Moreover, the differences noted above disappear in the percentage rating task, where male-female responses are remarkably similar.

Attribute lists and their associated mean percentage ratings as rated by each sex and overall are presented in

Appendix III, Tables 1 to 16.

Table 6 presents the number of attributes listed for each category. There were no significant differences in the number of attributes listed for either the middle level categories (X^2=3.38, df=4, N.S.) or for the subordinate level categories (X^2=3.90, df=9, N.S.). Fig. 4 presents the average number of attributes at each level of the sex-role taxonomy. The middle level value is the mean over the five middle level categories and the subordinate level value is the mean over the 10 subordinate categories. The number of attributes across levels of abstraction did not differ significantly (X^2=1.53, N.S.). Fig. 5 presents the average number of attributes for each of the five middle roles and their associated subordinate categories. Again, the apparent increases in number of attributes from lower to middle level categories were not sigificant for any role. In contrast, Cantor and Mischel (1979) reported a decrease in the number of attributes with increasing levels of abstraction for person prototypes.

To examine possible differences in the nature of the information gained at the various levels of inclusiveness, a content analysis of the attribute lists was performed. Attribute lists were categorized according to whether they referred to trait/dispositions, physical appearance, socioeconomic status or behaviours. The results of this classification are presented in Table 7. This analysis explicates the difference between Cantor and Mischel's(1979) data and the present study with regard to the number of

Table 6. Number of attributes listed for each role category.

Role	No. Attributes	Level Mean
Women	35	
Career Woman	34	
Housewife	31	
Female Athlete	25	28.6
Sex Object	31	
Women's Libber	22	
Cook-cleaner	31	
Caretaker of children	28	
Radical supporter	20	
Moderate committed	24	
Swimmer	28	25.7
Runner	26	
Doctor	25	
Teacher	22	
Bunny	29	
Movie star	24	

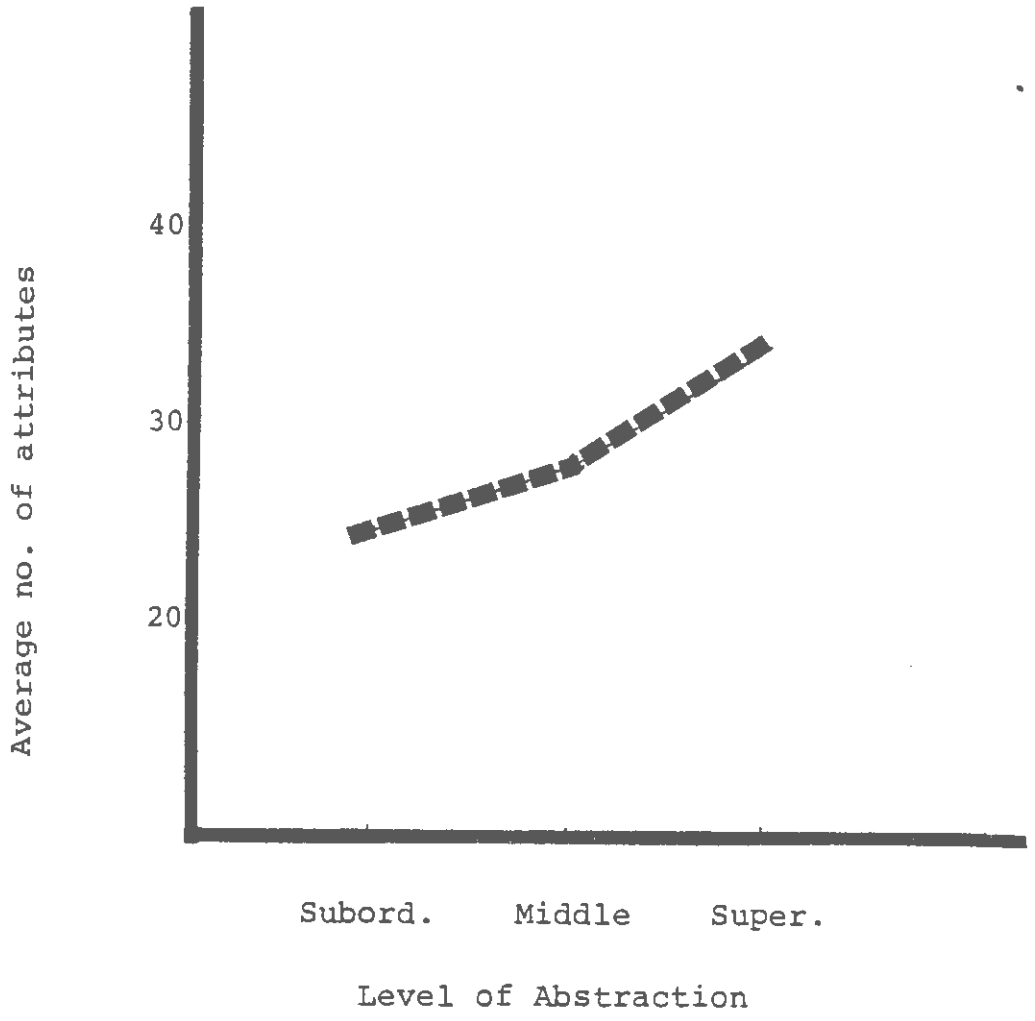

Fig. 4 Average number of attributes at each level of abstraction of the female sex-role taxonomy.

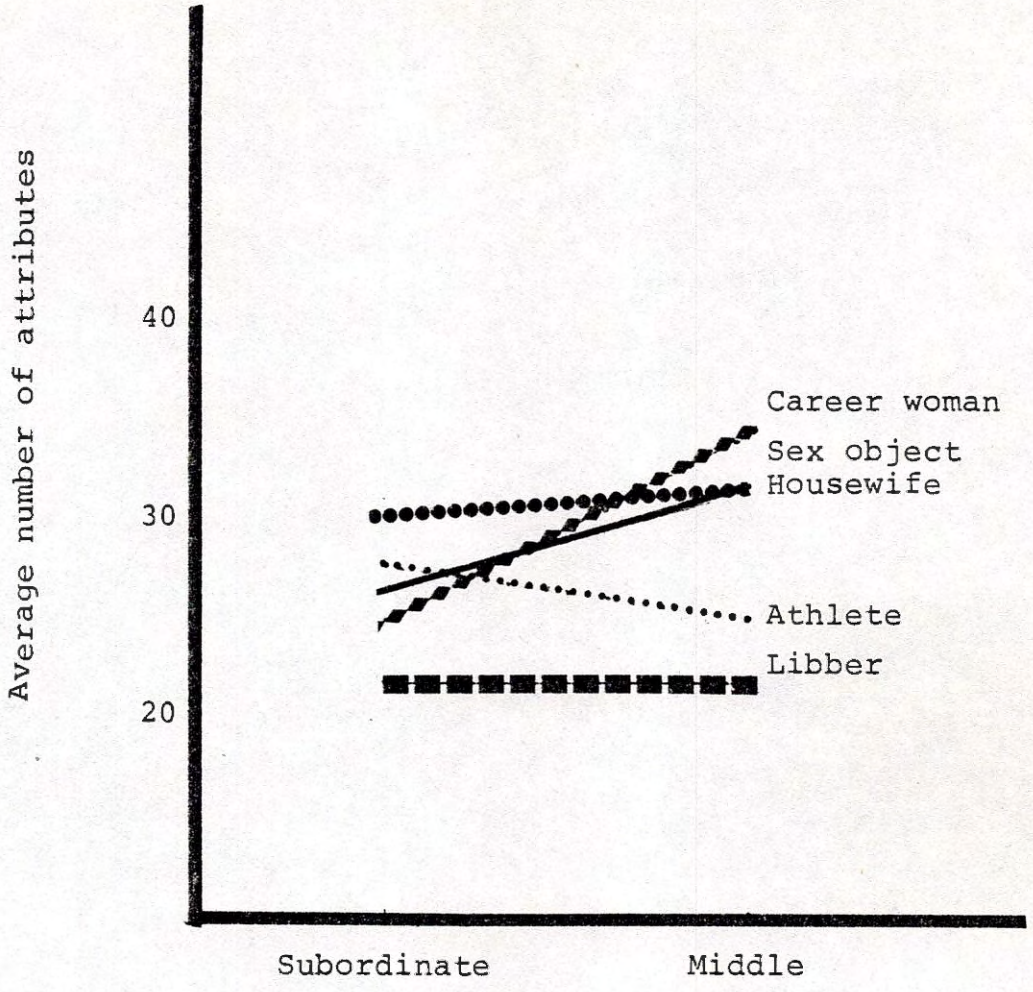

Fig. 5 Average number of attributes at each abstraction level for each of the middle level categories and their associated subordinate roles.

attributes at different levels of abstraction. It is evident that only one attribute category, i.e., trait/dispositions, varied in the opposite direction to that reported by Cantor and Mischel(1979). Indeed, given the abstract nature of trait/dispositions, it does not seem unreasonable that they should increase with more abstract role levels. That is, as one moves from specific roles, such as bunny to more inclusive, abstract roles such as sex object, one might expect the number of abstract trait dispositions to increase. The number of concrete, vivid attributes referring to physical appearance, behaviours and socio-economic status decreased with increasing levels of abstraction, which is the same pattern reported by Cantor and Mischel(1979) for person prototypes.

Table 7. Mean number and percentage of attributes of different types at each level of abstraction*.

Attribute Type	Level of Abstraction		
	Superordinate	Middle	Subordinate
Trait dispositions	30(85.7)	21.8(76)	16.7(64.9)
Physical appearance	1(2.9)	2.8(9.8)	2.7(10.5)
SES	0(0.0)	.8(2.8)	1.0(3.9)
Behaviour	4(11.4)	3.2(11.2)	5.3(20.6)

*percentage in brackets

Relatively speaking, then, these data provide further support for the interpretation of higher level superordinate categories as being more abstract in nature and lower level categories as being more concrete and specific in content. At the same time, this analysis provides evidence for the correspondence of stereotypes and person prototypes.

Category distinctiveness was examined by computing the overlap of attributes across the five middle level categories, across the 10 subordinate level categories, and between each subordinate pair (e.g., movie star & bunny). An attribute was counted as shared if it occurred in any other category at the same level of abstraction. No attribute occurred in all categories at either the middle or subordinate levels.

Table 8 presents the number of shared and distinctive attributes across middle and subordinate levels of abstraction. These data are quite consistent with those of Cantor and Mischel(1979) and Rosch(1976). Middle level categories have only half as many shared attributes (X=8.4) as subordinate level categories (X=16.0) and almost twice as many distinctive attributes (X=15.4 & 9.3 respectively). The middle level categories, therefore, do seem to maximize category distinctiveness and relative richness, since they also have at least as many attributes as subordinate categories. Moreover, the middle level categories represent the intersection of general abstract attributes and concrete, specific attributes, exhibiting more abstract trait dispositions than the subordinate level and more

Table 8. Number of shared and distinctive attributes across middle and subordinate categories.

Category	No.Shared	No.Distinctive	No.Shared in Subcat.Pairs
Housewife	4	27	
Athlete	10	15	
Career Woman	13	21	
Sex Object	7	24	
Women's Libber	8	14	
Caretaker	17	11	12
Cook-cleaner	15	16	
Runner	21	5	16
Swimmer	19	8	
Teacher	19	6	8
Doctor	15	7	
Movie star	15	9	10
Bunny	14	15	
Moderate	11	11	11
Radical	14	5	

concrete attributes(such as those that refer to physical appearance) than the superordinate level.

Tables 9 and 10 show the attributes that are shared across categories for the middle and subordinate levels respectively. It is evident from Table 9 that the majority of shared attributes occurred among the roles of athlete, career woman and women's libber. Housewife and sex object share very few attributes with other roles and are most distinct.

Table 9. Shared attributes across middle level stereotypic categories of women

Attribute	Female Category				
	Housewife	Athlete	Career woman	Sex object	Libber
Ambitious		X	X		
Agressive		X		X	X
Believe in equal.			X		X
Confident			X	X	X
Determined	X	X	X		X
Energetic		X	X		X
Pro equal rights		X			X
Hardworking	X	X	X		
Intelligent		X	X	X	X
Liberal-minded				X	X
Sense of homour	X	X			
Outgoing		X	X	X	
Responsible	X		X		
Strong-minded			X		X
Sophisticated			X	X	
Well-dressed			X	X	

Table 10. Shared attributes across stereotypic sub-categories of women

Attribute	Doc	Tea	Run	Swi	Mod	Rad	Car	Cok	Str	Bun
self controlled	X	X	X				X			
intelligent	X	X	X	X	X	X			X	
dedicated	X	X	X			X		X		
hardworking	X	X	X	X				X		
independent	X	X	X		X	X				
efficient	X	X						X		
goal-oriented	X	X								
determined	X		X	X		X				
competitive			X	X						
disciplined			X	X						
ambitious	X		X	X	X	X				
liberated			X	X						
healthy			X	X						
strong			X	X					X	
tall			X	X						
short hair			X	X						
muscular			X	X						
eat properly			X	X						
don't drink/smoke			X	X						
in other activities			X	X						
agressive	X				X	X				X
outspoken					X	X				
want equality/ pro equal rights			X	X	X	X				
opposed male/ female roles					X	X				
liberal-minded					X	X				
have careers					X	X				
loving							X	X		
caring							X	X		
kind	X						X	X		

LEGEND: Doc-Doctor, Tea-Teacher, Run-Runner, Swi-Swimmer, Mod-Moderate, Rad-Radical, Car-Caretaker, Cok-Cook, Str-Movie Star, Bun-Bunny

Table 10. (cont'd) Shared attributes across stereotypic sub-categories of women

Attribute	Doc	Tea	Run	Swi	Mod	Rad	Car	Cok	Str	Bun
patient		X					X	X		
responsible		X					X	X		
helpful		X					X	X		
tolerant		X					X	X		
careful							X	X		
friendly		X					X	X		X
unselfish							X	X		
dependent							X	X		
child-oriented							X	X		
outgoing	X		X			X			X	X
good-looking									X	X
good figures				X					X	X
young									X	X
seductive									X	X
open-minded									X	X
conceited									X	X
like attention									X	X
good personality									X	X
egotistical									X	X
like their work	X	X								
active socially			X	X						
sympathetic		X					X			
understanding		X					X			
confident	X			X	X	X				X
brave	X								X	
gentle	X						X			
mature	X						X			
single	X					X				X
rich	X								X	
dress well					X				X	

LEGEND: Doc-Doctor, Tea-Teacher, Run-Runner, Swi-Swimmer, Mod-Moderate, Rad-Radical, Car-Caretaker, Cok-Cook, Str-Movie Star, Bun-Bunny

Clifton et al(1976), using a different methodology and different test items, reported remarkably similar findings. They found strong evidence for distinctive stereotypes of housewife and bunny, with a third stereotype encompassing the more non-traditional alternatives of career woman and athlete. Thus, there is converging evidence that is suggestive of multi-category stereotypes of women, an issue to be further addressed later.

Taken together, the data reported here indicate that the middle level categories in the female sex-role taxonomy maximize the intersection of richness (number of attributes), differentiation and concreteness while reducing the cognitive load of distinguishing too many categories. The middle level categories, like those described by Cantor and Mischel(1979) and Rosch(1976), have much utility in person descriptions, and, like theirs, probably function as the basic-level categories in person perception.

Study 5. The Basic-level Category in Categorization Schemes

It has been found in categorization schemes that the most frequently used category level is the one that represents the intersection of information richness and cognitive economy. In both object (Rosch,1976) and person (Cantor & Mischel,1979) categories, this "basic-level" category appears to be the middle level category, which provides the most information with the fewest category labels. Study 4 of the present research has also indicated this to be the case for sex-role stereotypic schemes.

Furthermore, Rosch et al(1976) have empirically demonstrated that the middle level category is the one overwhelmingly used in a free-naming task in object perception, as opposed to superordinate or subordinate names. The present study tested the hypothesis that the middle level categories of the female sex-role stereotype function as "basic-level" categories, that is, this level name would be most frequently employed to describe an exemplar of the stereotype, rather than superordinate or subordinate names.

Method

Subjects

Subjects were 17 college freshmen, with a mean age of 18, 9 females and 8 males, who were paid to participate in the study.

Procedure

Each subject was given a booklet which contained a list of attributes selected from the attribute listing task that described one of the middle level roles. Of course, because of the considerable vertical overlap between middle level roles and their subordinate pairs, these attributes would also describe the appropriate subordinate category. All five middle level roles were included on separate pages in randomized order. Subjects were instructed to read each list and then check from four alternatives provided, the term they would most frequently use to describe the type of person portrayed by the attribute list. Each set of four alternatives included the superordinate category of woman, an appropriate subordinate category and one other middle level category besides the correct middle level category name. A copy of the instructions and sample test booklet are included as Appendix IV.

Results

Table 11 shows the number of subjects who correctly identified the middle level category for each of the five female roles presented.

Table 11. Number of subjects who correctly identified the middle level category across roles(n=17).

	Role category				
	Housewife	Career Woman	Sex Object	Female Athlete	Women's Libber
# Correct Responses	14	13	15	14	9

There were no differences among categories in the number of subjects who correctly identified the middle level category (X^2=7.11, df=4, N.S.). A significant number of subjects over all categories correctly named the middle level category to describe the attribute list (X^2=4.76, df=1, P<.05).

These results support the hypothesis that the middle level categories for the female sex-role stereotype, like those in other person taxonomies, function as basic-level categories, and as such, are more likely to be employed in person perception tasks. It is also interesting to note that most of the incorrect responses chose the subordinate

label, only one referred to another middle level label and only two to the superordinate label of woman. It appears that as a first cut of the information we have about someone, the superordinate level does not convey sufficient information while the subordinate level is too specific. The middle level label seems to represent the compromise between the two.

Study 6. Validation of the Middle Level Stereotypic Catgeories

Studies 4 and 5 provided strong evidence for the important function of the middle level categories as "basic-level" categories. They represent the intersection of maximum information and minimum cognitive effort. They have also been shown to be the most likely sex stereotypic labels employed in person description tasks. Study 6 was designed to provide validation of the five middle level stereotypic roles, to indicate precisely the degree of overlap among them and to measure the relative importance of attributes defining each role.

Method

Subjects

Subjects were 663 college freshmen, 320 males and 343 females, with a mean age of 18, who participated in the study as part of the introductory psychology course experience. Subjects were, however, free to not participate if they wished.

Procedure

The 10 attributes for each of the five middle level roles that received the highest rankings in the attribute rating task were selected (See Table 12). Of these, five attributes (i.e., ambitious, intelligent, determined,

Table 12. Attributes for each of the five middle level categories selected for the sex-role scale.

Category	Attributes	
Female Athlete	Healthy	Sports-oriented
	Energetic	Dedicated
	Co-ordinated	Slim
	Determined	Nonsmoker/drinker
	Ambitious	Hardworking
Housewife	Loving	Do housework
	Caring	Care abour children
	Tidy	Devoted to children
	Gentle	Hardworking
	Busy	Need appreciation
Sex Object	Beautiful	Good figure
	Seductive	Fashion conscious
	Popular	Attentive to appearance
	Seek attention	Socialize more with men
	Dress seductively	Wear heavy makeup
Women's Libber	Aggressive	Believe in equality
	Independent	Want responsibility
	Confident	Strong-minded
	Adventurous	Knowledgeable
	Determined	Intelligent
	Defensive	
Career Woman	Mature	Goal-oriented
	Ambitious	College-educated
	Competent	Believe in equality
	Liberated	Responsible
	Intelligent	Hardworking
	Determined	

hard-working and believe in equality) occurred in more than one category, resulting in a list of 45 attributes. These were placed on a seven point Likert scale from very atypical to very typical and randomly ordered.

Subjects were tested in class groups of approximately 35 and three classes each were randomly assigned to rate one of housewives, women's libbers, female athletes, sex objects, career women and women. The instructions and test scale are included in Appendix V.

Results

The 663 responses to the 45 Likert scales were submitted to a principal- components analysis. Using Kaiser's rule (Kaiser,1958), seven factors were extracted that had eigenvalues greater than 1.00.These factors were orthogonally rotated using the Varimax procedure, and factor loadings of .50 or greater were considered meaningful for the purposes of factor definition.

The factor matrix resulting from this analysis is presented in Appendix V, Table 1. The last factor in this matrix had no high loadings, the highest being .34. Furthermore, of the 45 scales, eight did not load significantly on any factor. To achieve better structure (Harmon,1967; Child,1978), these scales were therefore dropped and the remaining 37 scales submitted to principal-components analysis using the same criteria described above.

This analysis did indeed yield better structure. Six factors were extracted that had eigenvalues greater than 1.00; each scale loaded on at least one factor; and, with the exception of "healthy", each scale loaded on only one factor. Moreover, the six factors accounted for the same amount of the total variance as the first analysis, 61 per cent. This analysis was therefore taken as the final factor solution. Table 13 presents the six factors and associated factor loadings that were .50 or greater. The full factor matrix, with associated eigenvalues and communalities, is presented in Appendix V, Table 2.

The results of the factor analysis provide strong evidence for the distinctiveness of the profiles for career woman, sex object, housewife and athlete. A comparison of Tables 12 and 13 shows that the attributes defining each of these profiles from the attribute listing task are essentially the same as those yielded by the factor analysis. These results are impressive considering the overlapping nature of categories and "fuzzy sets", which was also reflected in the levels of shared attributes in the present research. For example, five attributes were shared by more than one profile in the top 10 attributes rated and several other attributes were shared by profiles at a lower frequency level. Factor analysis indicated that four of the five shared attributes (intelligent, believe in equality, determined & ambitious) were most important in defining the career woman profile while the fifth attribute (hard-working) loaded most highly on the athlete profile.

Table 13. High factor loadings for rotated factor matrix of 37 scales.

Scale	Factor 1	2	3	4	5	6
Beautiful	.7731					
Good figures	.7887					
Attentive to appearance	.7170					
Fashion-conscious	.7853					
Seductive	.6980					
Wear heavy makeup	.6326					
Dress seductively	.7529					
Popular	.6311					
Socialize more with men	.6813					
Ambitious		.7005				
Believe in equality		.7269				
Intelligent		.6754				
College-educated		.7627				
Determined		.6422				
Strong-minded		.5323				
Independent		.6241				
Liberated		.6246				
Knowledgeable		.6849				
Goal-oriented		.7331				
Want responsibility		.4976				
Do housework			.7206			
Care about children			.8323			
Devoted to family			.8338			
Gentle			.7369			
Loving			.7973			
Caring			.8229			
Energetic				.5062		
Hardworking				.5089		
Healthy				.5144	.5352	
Co-ordinated				.6477		
Dedicated				.5978		
Busy				.6957		
Nonsmoker/drinker					.6747	
Sports-oriented					.6378	
Defensive						.6950
Seek attention						.5114
Eigenvalue	7.40	6.04	4.52	2.25	1.19	1.15
Variance	20.00	16.30	12.20	6.10	3.20	3.10

Of the other attributes on the sex-role scale, only three moved from their original roles to another profile; "slim" from the athlete to the sex object profile; "seek attention" from the sex object to the libber profile; and "busy" from the housewife to the athlete profile.

It is also interesting to note that the athlete profile comprises two factors. An examination of the attributes defining these shows that the abstract attributes (factor 4) are separated from the concrete/behavioural attributes (factor 5).

Table 13 also shows that only two attributes loaded on the libber profile. This may be partly accounted for by the considerable initial overlap between the libber and career woman in the most important attributes defining each (See Table 12). Six attributes were unique to the libber profile; aggressive, adventurous, confident, knowledgeable, want responsibility and defensive. Of these, "aggressive", "confident" and "adventurous" did not load highly on any profile. "Knowledgeable" and "want responsibility", along with the other attributes shared with the career woman, loaded on the career woman profile. Only one of the original libber attributes, "defensive", loaded on that profile.

Another possible explanation for the small number of characteristics defining libber may be that this role was less well-defined throughout these studies. The libber role barely met the 50 per cent listing criterion for category types; had the greatest number of omissions for listing

subcategory types; had the greatest number of errors in the card-sorting task and had the fewest attributes listed in the attribute listing task. The factor analysis results are consistent with these findings; the libber role being the last factor extracted, accounting for the smallest amount of variance of the scale, and being the only factor not overdetermined, with only two scales defining it. It is possible, of course, that the libber role would have emerged more clearly if more of its unique attributes had been included on the sex-role scale. However, this would not have been consistent with the methods employed here, which selected attributes on the basis of frequencies, rather than their uniqueness.

Still another possible reason for the weakness of the libber role is the use of the term "libber" itself, which has considerable negative connotations. This is evident from the loading of only negative attributes on this role while its initial positive attributes loaded on career woman. Perhaps the term "feminist" or "untraditional", both of frequent occurrence in the category listing task, would capture the gist of this dimension without over-emphasizing negative attributes. This possibility is supported by the fact that the "moderate committed to equal rights" is described in more positive terms than either libber or its other subcategory of "radical supporter of women".

Finally, the factor analysis results on the libber role may simply reflect the fact that subjects perceive no difference between career women and libbers, except on

negative dimensions that then comprise the libber role. Clearly, these possibilities require further investigation.

The overall results of the factor analysis provide strong corroborating evidence for at least four distinct sex-role profiles of women; career woman, housewife, sex object and athlete.

The same factor analysis was performed separately for each sex in order to determine if males and females differed in their ratings of women's roles. These analyses yielded strikingly similar patterns for males and females, which were essentially the same as the overall analysis reported in Table 12. The analysis for females was virtually identical to the overall analysis and accounted for 63 per cent of the variance. The analysis for males, which also accounted for 63 per cent of the variance, varied only slightly from that for females. Seven factors were extracted with eigenvalues greater than 1.00. The clusters representing career woman, housewife and sex object were the same as those for the overall analysis. The female athlete profile was the same also, except for the "nonsmoker" scale which loaded with the "defensive" scale to comprise factor 6 (the libber role). In addition, a further factor (7) was composed of only one scale, "intelligent".

The Tukey A procedure was used to compare the mean scale ratings of males and females for all scales and no significant differences were found. The absence of significant sex differences on the sex-role scale is entirely consistent with the amazing similarity of male and

female responses in both the category generation and attribute listing tasks. It appears that males and females do not differ substantially in their perceptions of stereotypic female roles or what attributes comprise these roles. They probably do differ, however, in their evaluation of these roles, as suggested by the only sex differences found in this research, in which the sexes differed on the number of negative attributes they assigned to a number of roles (See Study 4).

II. The Function of Stereotypic Schemas

Experiment 1. Recognition Memory Test

It has been demonstrated that prototypes function as cognitive schemas in processing information about others. The more an individual fits a prototype, the more easily information about that person is categorized, recalled and recognized (Cantor & Mischel,1979; Tsujimoto,1978). Moreover, Study 4 of the present research suggests the functional correspondence between stereotypes and person prototypes. Accordingly, if stereotypes function as prototypic schemas, then information consistent with the stereotype should be more easily recalled or recognized.

Study 4 also provided strong evidence that the middle level stereotypic categories of women were the ones that function as basic-level categories, in that they represent the intersection of maximum information and minimum cognitive load. Study 5 provided direct evidence that these categories were the most frequently used to describe exemplars of the female stereotype. Since middle level categories appear to be the basic categories for organizing stereotypic information, then information consistent with them should be more easily recognized. Moreover, a memory bias toward the stereotypic category should also be evident for stereotypic consistent information not included in an original stimulus list. The present experiment was designed to examine these assumptions using a recognition memory

paradigm.

Design

The design of the recognition memory task, depicted in Fig. 6, was a 2(Prototype) x 2(Instruction) x 2(Item type) repeated measures design with the last factor repeated.

Prototype	Condition	Item Type	
		Related*	Unrelated
Central	Explicit	n=15	n=15
	Implicit	n=15	n=15
Peripheral	Explicit	n=15	n=15
	Implicit	n=15	n=15

*Same subjects in related-unrelated conditions.

Fig.6. Design of recognition memory experiment.

Two groups of subjects were presented with a list of attributes that described a central exemplar of one middle level stereotypic category, "career woman" (Central Prototype), while the other two groups were presented with a list of attributes peripheral to the category (Peripheral

Prototype). For one of the two groups given the central attribute list, the exemplar was named in the instructions to subjects (Explicit Condition) whereas for the other group it was not (Implicit Condition). Similarly, the exemplar was named for one of the two groups receiving the peripheral list, while for the other group it was not named.

Subjects were given a recognition memory test, consisting of a list of attributes of three types (See Table 14):

1. attributes from the acquisition (ie.stimulus) list
2. attributes that were not part of the acquisition list but were conceptually related to the stereotypic category (Related Condition)
3. attributes that were not part of the acquisition list and were unrelated to the stereotypic category (Unrelated Condition).

It was predicted that subjects would show greater recognition memory for acquisition items ove non-acquisition items; that subjects would falsely recognize more conceptually related items than unrelated items; and that this effect would be greater for the central prototype exemplar and under explicit instruction conditions.

Subjects

Subjects were 60 college freshmen, 30 males and 30 females, with a mean age of 18, who participated in the experiment as part of a class project.

Procedure

Subjects were randomly assigned to one of the experimental groups and each group was tested as a group. Subjects in the Explicit Condition were given the following instructions:

> "We are going to conduct a test of memory. I will read a list of attributes that could be used to describe a Career Woman. Afterwards, I'm going to ask you to remember as many attributes as you can."

Instructions for the Implicit Condition were the same except that Fictitious Character was substituted for Career Woman. The Central or Peripheral list was then read, at the rate of one attribute per second.

Table 14 presents the acquisition and recognition test items for the Central and Peripheral prototype exemplars. Attributes for the Central exemplar were selected from the career woman attribute list while those for the Peripheral exemplar were randomly selected from the attribute lists for the remaining four middle level categories of women (i.e., housewife, athlete, etc., See Appendix III).

Table 14. Summary of items used to describe good and peripheral exemplars of a career woman.

Good Exemplar	
Acquisition Test Items	Recognition Test Items
believes in equality	gentle(U)
determined	competent(R)
ambitious	determined(A)
goal-oriented	co-ordinated(U)
college-educated	liberated(R)
intelligent	knowledgeable(R)
confident	seductive(U)
independent	goal-oriented(A)
strong-minded	responsible(R)
mature	intelligent(A)
	beautiful(U)
	caring(U)
	hardworking(R)
	independent(A)
	reliable(R)
	bold(U)
	ambitious(A)
	busy(U)
	logical(R)

Peripheral Exemplar	
Acquisition Test Items	Recognition test Items
popular	gentle
tolerant	competent
strong	self-satisfied(A)
self-satisfied	co-ordinated
patient	liberated
concerned	knowledgeable
tidy	seductive
flirtacious	tidy(A)
fashionable	responsible
slim	flirtacious(A)
	beautiful
	caring
	hardworking
	slim(A)
	reliable
	bold
	patient(A)
	busy
	logical

A-acquisition;U-prototype unrelated; R-prototype related

The recognition memory test items included three types of attributes:

1. 5 attributes randomly chosen from the acquisition list
2. 7 attributes randomly chosen from the remaining career woman attribute list(Related items)
3. 7 attributes randomly chosen from the remaining attribute lists of the other middle level categories of women(Unrelated items).

After the reading of the acquisition list, subjects were instructed to count aloud, backwards, from 1050 for two minutes in order to disrupt immediate short-term memory. They then completed the recognition memory test, which began with the following instructions:

" Use the scale below to indicate how certain you are that each of the following items were among those you just heard."

1	2	3	4
certain that item was on list	maybe item was on list	maybe item was <u>not</u> on list	certain item was <u>not</u> on list

<u>Results</u>

Means and standard deviations for the acquisition and non-acquisition items for each of the experimental groups are shown in Table 15.

Table 15. Means and standard deviations of acquisition and non-acquisition items for treatment groups.

Prototype	Condition	Itemtype			
		Acquisition		Non-acquisition	
		X	S.D.	X	S.D.
Central	Explicit	1.16	.28	3.05	.44
	Implicit	1.13	.16	2.70	.32
Peripheral	Explicit	1.48	.42	2.92	.38
	Implicit	1.45	.60	2.42	.27

Analysis of variance (Prototype x Condition x Itemtype(repeated)) of these data is presented in Table 16.

The analysis of variance revealed the predicted effect of Item type. Subjects exhibited greater recognition confidence for acquisition items (X=1.31) than for non-acquisition items (X=2.77). There was also a significant main effect of Condition on recognition confidence, subjects showing greater recognition confidence under Implicit instructions (X=1.93) than under Explicit instructions (X=2.15). Examination of Table 15 shows that this difference is accounted for by

Table 16. Analysis of variance of acquisition and non-acquisition memory scores across treatments.

Source	SS	DF	MS	F	P
Between					
Within cells	8.9178	56	.1593		
Constant	499.5143	1	499.5143		
Prototype	.1027	1	.1027	.6447	N.S.
Condition	1.5075	1	1.5075	9.4665	.01
Prot. x Cond.	.0407	1	.0407	.2556	N.S.
Within					
Within cells	7.2795	56	.1299		
Itemtype	64.5773	1	64.5773	496.7860	.01
Prot. x Itemtype	2.0514	1	2.0510	15.7820	.01
Cond. x Itemtype	1.1702	1	1.1702	9.0020	.01
Prot. x Cond. x Item.	.0407	1	.0407	.3130	N.S.

differences in the non-acquisition items. Indeed, there was also a significant interaction of Condition and Item type, which explicates this effect. Fig. 7, which depicts this interaction, shows quite clearly that there are no differences between Explicit-Implicit instructions for acquisition items (X=1.32 & 1.29 respectively). Multiple comparisons using the Scheffé procedure confirmed that Explicit-Implicit instructions differed only for the non-acquisition items. Subjects were surer that they had not heard the non-acquisition items under Explicit instructions than they were under Implicit instructions, which is consistent with the predictions made. Explicit instructions appear to more directly activate the stereotype and hence aid memory for information about the stereotype. Thus, subjects are more certain of what they have or have not heard.

Similarly, the Central exemplar also appears to aid information input. Fig. 8 shows a significant interaction of Prototype and Item type. Mutliple comparisons using the Scheffé procedure indicated that this effect was accounted for by a significant difference between the Central versus Peripheral prototypes on the acquisition items (X=1.15 & 1.47 respectively). Subjects showed greater recognition confidence for acquisition items of the Central prototype than they did for the Peripheral prototype, which suggests that the Central prototype exemplar aids the encoding process.

The second analysis examined recognition ratings

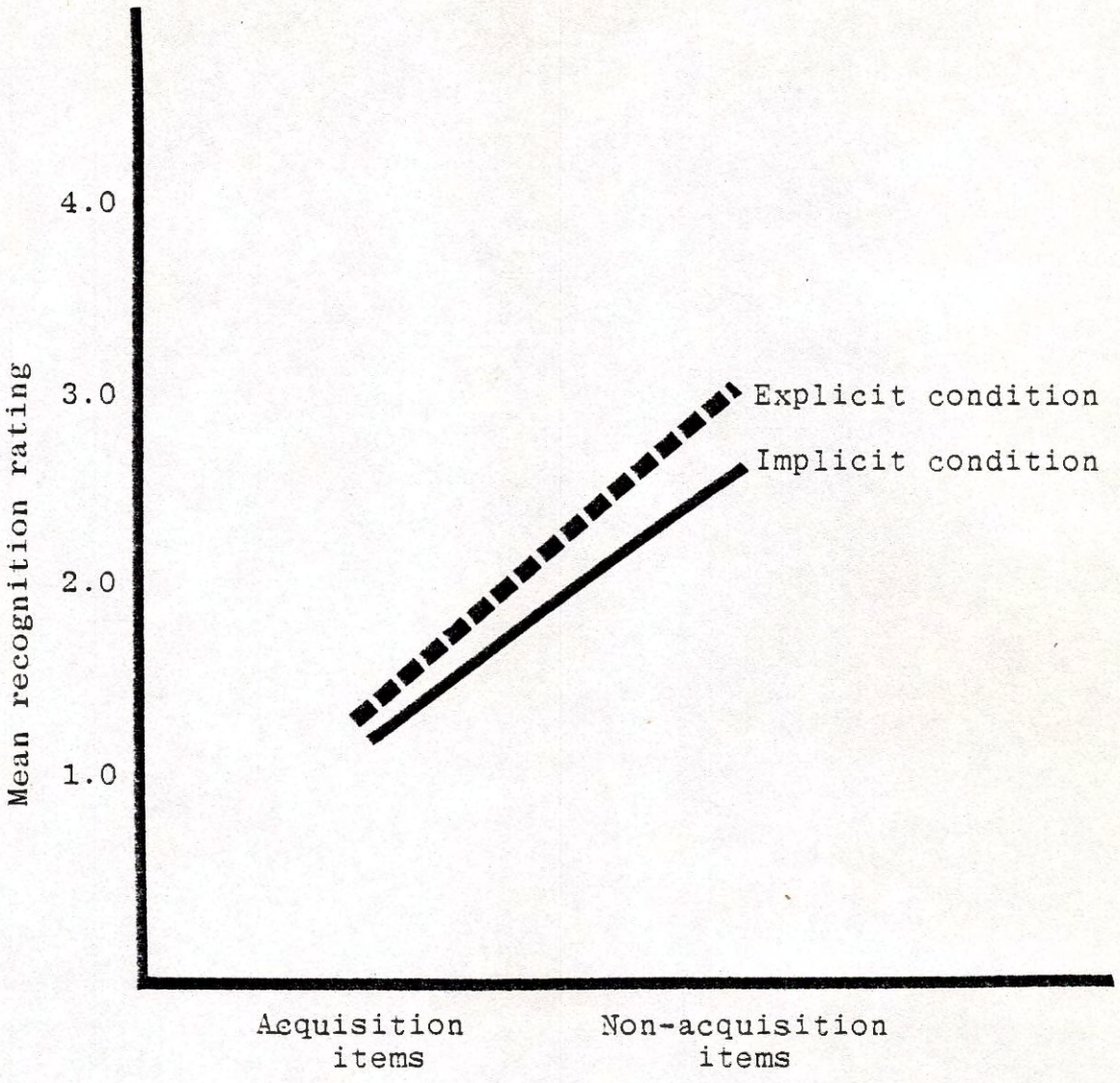

Figure 7. Interaction of Explicit-Implicit instructions and Item type

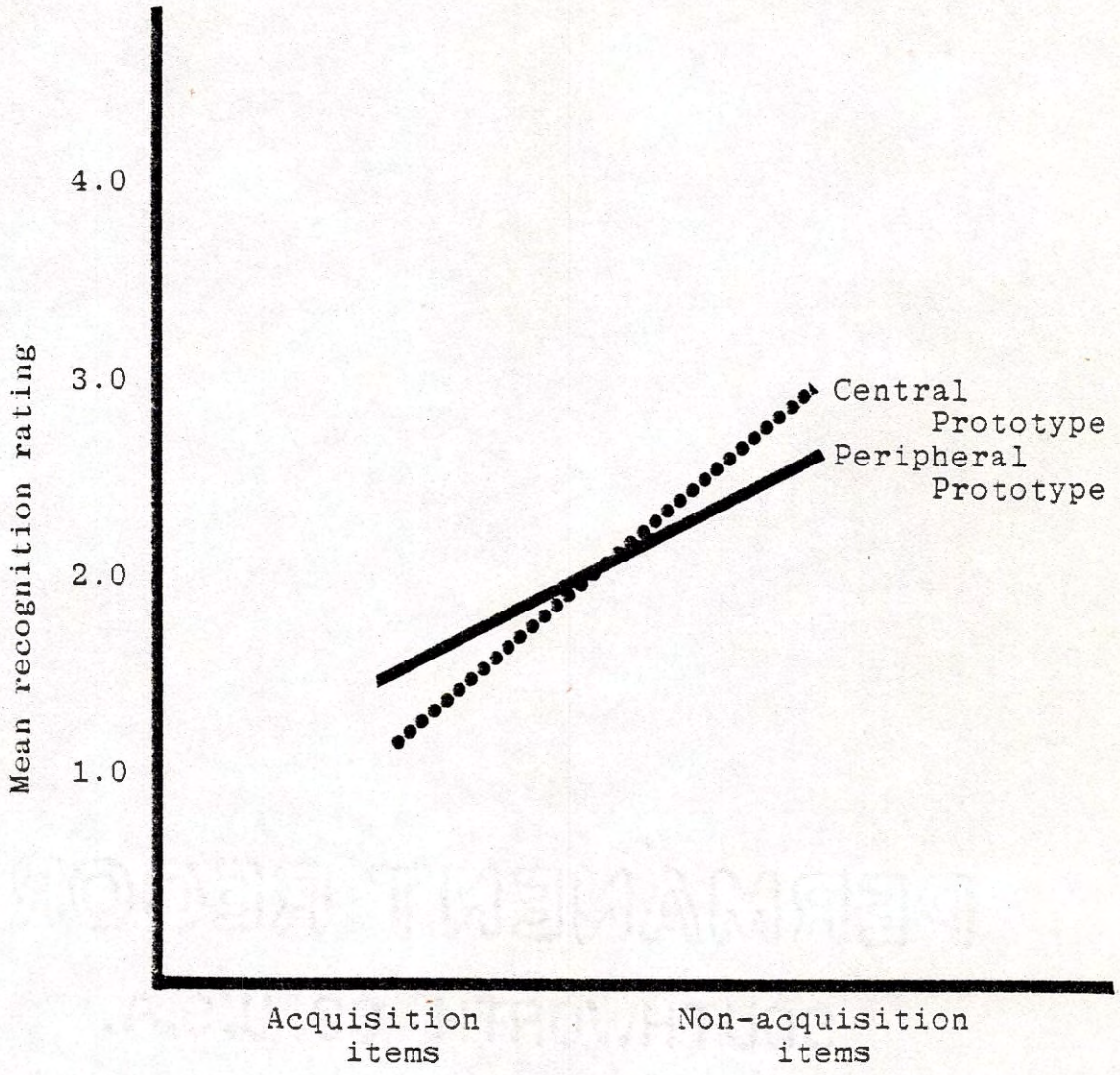

Figure 8. Interaction of Prototype and Itemtype

of only the non-presented items. Table 17 presents the means and standard deviations for these items, divided into related and unrelated types, across experimental groups.

Table 17. Means and standard deviations of related and unrelated items in the recognition memory task.

Prototype	Condition	Itemtype			
		Related		Unrelated	
		X	S.D.	X	S.D.
Central	Explicit	2.23	.57	3.74	.28
	Implicit	1.92	.33	3.47	.51
Peripheral	Explicit	2.49	.53	3.35	.40
	Implicit	2.13	.31	2.74	.47

Analysis of variance (Prototype x Condition x Itemtype(repeated)) of these data is presented in Table 18. This analysis revealed the predicted main effect of Item type. Subjects falsely recognized items related to the stereotype (X=2.19) to a much greater extent than items unrelated to the stereotype (X=3.33). There was also a significant main effect of Condition. Subjects expressd greater certainty that they had heard the unpresented items under the Implicit condition (X=2.56)

Table 18. Analysis of variance of related and unrelated items across treatments.

Source	SS	DF	MS	F	P
Between					
Within cells	13.4476	56	.2401		
Constant	913.4494	1	913.4494		
Prototype	.7808	1	.7808	3.2517	N.S.
Condition	4.4544	1	4.4544	18.5496	.01
Prot. x Cond.	.2881	1	.2881	1.1998	N.S.
Within					
Within cells	7.9900	56	.1426		
Itemtype	38.4654	1	38.4654	269.5918	.001
Prot. x Itemtype	4.8401	1	4.8401	33.9226	.001
Cond. x Itemtype	.0864	1	.0864	.6055	N.S.
Cond. x Prot. x Item.	.1599	1	.1599	1.1205	N.S.

than under the Explicit condition (X=2.95). There was also a significant interaction between Prototype and Item type. Multiple comparisons using the Scheffé procedure indicated that there was a significant difference between the Central and Peripheral prototypes on the unrelated items. Fig. 9 shows that subjects were more certain that they had heard the unrelated items for the Peripheral prototype (X=3.04) than for the Central prototype (X=3.62). The Central prototype appears to emphasize the distinction between prototype-related material and prototype-unrelated material. This is also suggested by the greater difference between related-unrelated item means for the Central prototype than for the Peripheral prototype (1.54 and .74 respectively). However, the predicted difference between Central and Peripheral prototypes for prototype related items only approached significance ($P < .06$). There are several possible explanations for this failure.

The Peripheral exemplar did include several attributes that were low on the career woman profile. This was, of course, expected given the overlap among stereotypic roles and the inherently overlapping nature of "fuzzy" categories, especially at their boundaries. It may be, therefore, that the peripheral exemplar was sufficient to prime the stereotype. That is, the stereotype may be so powerful that the centrality of information about it is not important in its activation.

Alternatively, the peripheral exemplar may not

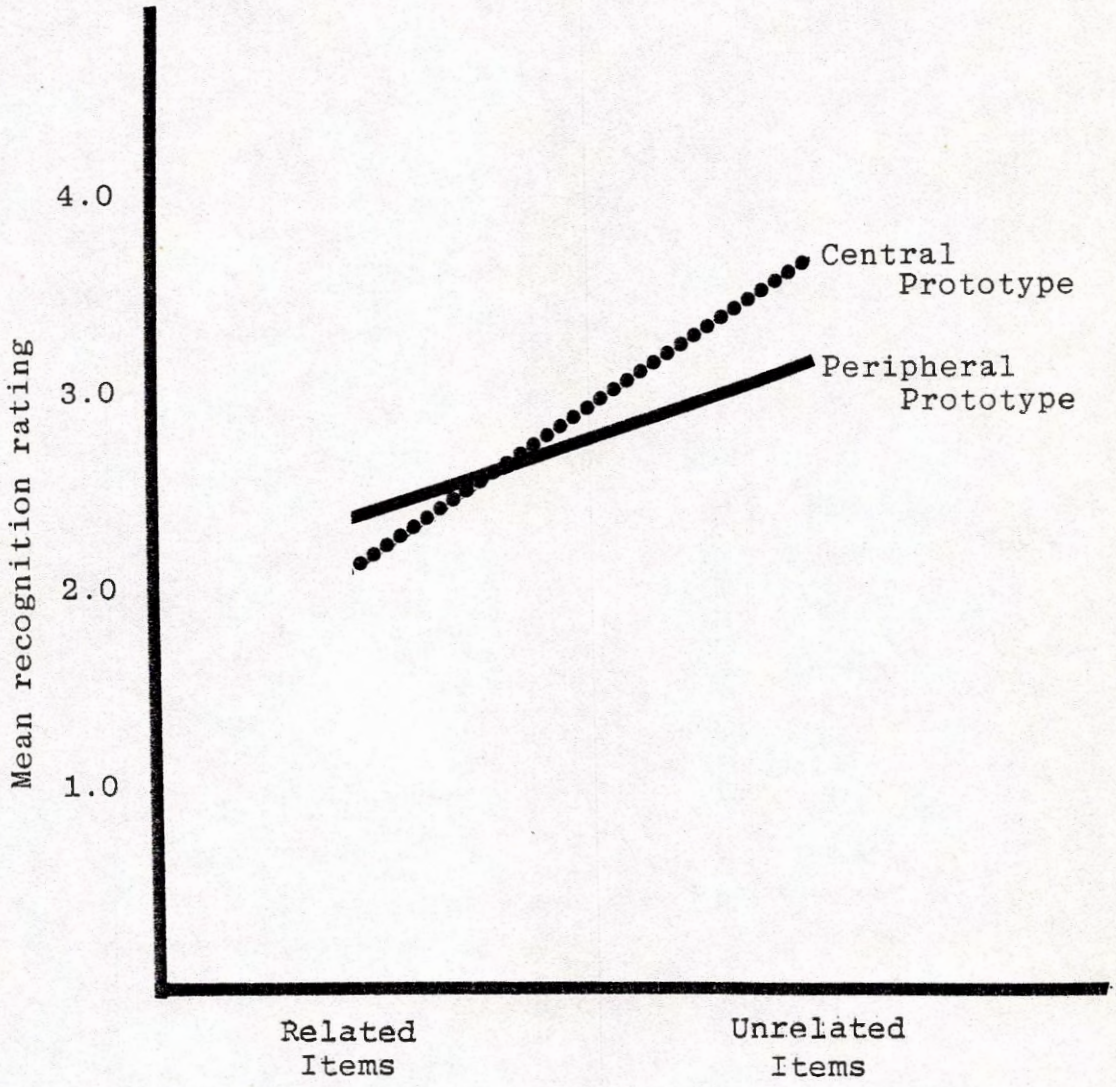

Figure 9. Interaction of Prototype and Item type.

have been sufficiently "peripheral" to the stereotype. Given the overlapping nature of categories, random selection of attributes from other roles may have been an inappropriate method to construct a truly peripheral exemplar.

Thirdly, the prototype related items may simply have been easier to remember than the unrelated items and a memory ceiling effect occurred which masked possible prototype differences. This does not seem likely, however, in that there are no apparent differences in word length or frequency of usage of the related and unrelated lists. Moreover, the difference in mean recognition ratings between related and unrelated lists was twice as great for the central prototype as for the peripheral prototype (i.e., in the predicted direction).

Replication of this condition, using a more distinct stereotypic role that has virtually no communality with the other roles (e.g., housewife), and for which peripheral exemplars can be clearly constructed, should be done. The centrality and memorability of exemplar lists should be pretested and several gradations of centrality employed (e.g., central, moderate, peripheral). These procedures should explicate prototype centrality effects.

Overall, the results of this study corroborate those reported by Cantor and Michel(1977) for extravert/introvert prototypes. Both studies found significantly greater recognition confidence for

acquisition versus non-acquisition items and for prototype related versus unrelated items. Recognition confidence was also significantly greater for unrelated items for the Peripheral(control) prototype as opposed to the Central prototype.

Cantor and Mischel(1977) did not find any differences between explicit-implicit instructions whereas the present study found several. Subjects were surer that they had heard both the non-presented items and items unrelated to the prototype under the Implicit condition as compared to the Explicit condition. It appears that the Explicit condition more directly primes the stereotypic category, making it more available for organizing input. The Implicit condition, on the other hand, requires subjects to abstract the stereotype from the attribute list, a more difficult task. The difference between these results and Cantor and Mischel's(1977) failure to find any differences is probably acounted for by the different methods employed by the two studies to prime the prototypic categories. Cantor and Mischel(1977) embedded the prototype names within their attribute lists whereas in the present study, the prototypic category was named at the beginning of the task, before the attribute list was presented. Hence, the category was more evident in the present study. The priming of the stereotypic category prior to stimulus presentation also probably accounts for the Explicit condition aiding organization of input

(acquisition items).

Considering that the two studies employed different procedures and different prototypes, the correspondence and consistency of results constitute converging evidence for the mediational function of prototypes as organizational schemata that aid encoding and memory of person information. These results also indicate that stereotypes function as prototypic schemata.

It should also be noted that the data of the present study were examined for sex differences and none were found, a consistent result throughout this research.

Experiment 2. Organization in Free Recall

It is conventional to study order of output in free recall memory data to draw conclusions about the structure of information in long term memory (Friendly, 1977; Hamilton, Katz & Leirer,1980; Hastie,1980; Sternberg & Tulving,1977). In the typical study concerned with clustering in free recall, subjects are presented with a stimulus list comprised of items representing clearly specifiable categories (e.g., bird-robin, canary, sparrow).Several instances of each category are presented in scrambled order and the subject's free recall list examined to determine the extent to which the items are grouped into the "a priori" categories. To the extent that such grouping is evident, the subject has organized the stimulus items according to the cognitive schemas that were salient to him.

Thus, analysis of clustering in free recall protocols provides a test of the organizational function of stereotypic schemas. If stereotypic categories function as organizing schemas in memory, then stereotypic attributes should show a tendency to be grouped together in memory.

Method

Subjects

Subjects were 20 college freshmen, 10 males and 10 females, age 18, who participated in the study as part of the introductory psychology course.

Procedure

Subjects were assembled in a classroom and tested as a group. They were given the following instructions: "We are going to conduct a test of memory. I will read a list of words and afterwards I will ask you to remember as many as you can"

The stimulus list, presented in Table 19, consisted of five items randomly selected from each of the attribute lists for career woman, housewife, athlete and sex object. Libber was not included because of its considerable overlap with career woman in central attributes.

Table 19. Stimulus items used in the free recall task.

determined	sports-oriented
popular	college-educated
ambitious	loving
caring	healthy
nonsmoker	co-ordinated
intelligent	fashion-conscious
beautiful	maternal
energetic	seductive
liberated	tidy
gentle	flirtacious

The items on the stimulus list were randomly ordered and read at the rate of one per second. Subjects then counted backwards aloud for two minutes to disrupt immediate short term memory. They then wrote as many of the items as they could recall. To reduce the possible confounding effects of memory processes on category clustering, that is, to ensure that demonstration of clustering was not interfered with by difficulties in remembering the items, the procedure was repeated to obtain a second recall measure.

Results

The Bousfield(1966) index was chosen to measure clustering in the free recall protocols. Although there are a number of such measures, the Bousfield index appears to be as sensitive as any of those in current use (Sternberg & Tulving, 1977). Moreover, it is designed to measure exactly the kind of categorical organization of theoretical interest here. The index measures the co-occurrence of pre-determined category items compared to expected chance levels of co-occurrence based on the number of categories and number of items recalled.

On the first recall, the Bousfield index yielded a X^2 of 3.78(df=1) which was just short of significance at an alpha level of .05 (X^2=3.84). The mean number of items recalled was 9.3. On the second recall, the Bousfield measure was significant (X^2=4.50, df=1), indicating that items clustered beyond chance levels according to the four

stereotypic role categories. The mean number of items recalled, 13.9, was also considerably higher than that on the first recall, indicating that memory difficulties may have confounded organizational tendencies on the first recall.

A significant amount of clustering according to stereotypic categories is quite impressive in that this technique requires very distinct categories with very little, if any, overlap among categories. Yet in this research, the attribute listing task (Study 4) and the factor analysis (Study 6) clearly showed that there was overlap among stereotypic categories.

The clustering by stereotypic categories found here was undoubtedly augmented by the fact that all category attributes loaded highly on their respective profiles (i.e., were central). Cantor and Mischel(1979) found that central category attributes were most important in defining prototypic categories on the basis of scant evidence. The data here also suggest that central attributes are the focus of category definition, even when the categories show considerable overlap in peripheral attributes. Whether or not this would be the case if peripheral attributes were also actually presented remains to be tested. It would be of considerable interest to examine the organizational dynamics of central and peripheral attributes as well as the role of context information in stereotypic categories. The paradigm described here may be a useful starting point for such research.

Discussion

1. The Female Sex-role Stereotype

The present investigation provides strong, consistent evidence for a multi- category female stereotype. The category listing tasks, the attribute listing tasks and the factor analysis of those attributes resulted in converging evidence for at least four distinct stereotypic roles; housewife, career woman, sex object and female athlete. A fifth role, women's libber, also emerged but was not as well-defined as the others. The veridicality of these stereotypic roles, moreover, is suggested by the remarkable similiarity of these categories to those reported by Clifton et al(1976).

Employing a different methodology and including a different subject population (middle class suburbanites), those authors identified five stereotypic female roles; housewife, career woman, bunny/sex object, female athlete and clubwoman. These roles were partially based on subject generated responses, which was wholly the case in the present work. Given this methodological format, the consistency of the stereotypic roles is impressive.

Furthermore, validation of the stereotypic roles in the present research was provided by factor analysis of 663 responses to the attribute scale.Four of the five roles emerged as strong clusters with the appropriate attributes defining each from the attribute listing task. Clifton et

al(1976) used a pre-determined adjective checklist of 153 items to characterize roles rather than subject generated descriptions. Nonetheless, the type of attributes describing each role was similar, although the actual attributes were different in the two studies. For example, Clifton et al(1976) found that only 10 of their 153 adjectives were used to describe three or more roles. Half of these were actually among those shared by roles in the present study. Their data also showed that the most overlap occurred among athlete, career woman and clubwoman, a finding paralleled in the present study by athlete, career woman and libber (See Tables 9 and 20).

Table 20. Shared adjectives across roles in the Clifton et al(1976) study.

Adjective	Role				
	Housewife	Athlete	Career Woman	Sex Object	Clubwoman
active	X	X	X	X	X
alert	X	X	X		X
aggressive*		X	X	X	X
hardworking*	X	X	X		X
confident*	X	X	X		X
ambitious*		X	X		X
competitive		X	X		X
persistent		X	X		X
independent*		X	X		X
adventurous		X	X	X	X

* adjectives also shared by roles in the present study

However, the degree of role overlap was considerably less in the present study. Table 21 shows the percentage of distinctive attributes for stereotypic roles for the Clifton et al(1976) and the present data.

Table 21. Percentage of distinctive attributes for roles in the present and Clifton et al(1976) studies.

Role	Present study percentage	Clifton et al percentage
Housewife	87	56
Athlete	60	17
Career Woman	62	27
Sex Object	77	66
Libber/Clubwoman	64	9

Although the pattern of role overlap is the same, i.e., housewife and sex object share fewer attributes than the other three roles, it is evident that all roles are more distinctive in the present study. It would appear that the different methodologies employed by the two studies account for this variance. In the present study, attributes were generated by subjects as those that were typical of and common to members of each role. In this way, subjects would generate highly distinctive characteristics for each role. Clifton et al's(1976) adjective checklist, on the other hand, contained items that were not chosen empirically on the basis of role distinctiveness or typicality. Consequently, many of the items that subjects would consider distinctive may not have been on the list, as evidenced by the different attributes generated by subjects in this

research. As well, many of the items may have been considered irrelevant. The checklist would therefore lead to more similar profiles than may actually exist.

Nonetheless, the present study does extend the findings of Clifton et al(1976) and both studies indicate that the assumption of a single-category female stereotype requires revision. Indeed, the only role that paralleled the traditional content of the female sex-role stereotype was the housewife role. The sex object role, although recognizably feminine from media images of women, contained attributes not found on any traditional sex stereotype scale (e.g., beautiful, seductive, good figure, fashion conscious). Moreover, the remaining stereotypic roles were strikingly "male" in content. The strong, distinctive career woman stereotype was described as intelligent, ambitious, determined, strong-minded, independent and goal-oriented, traits traditionally attributed to the male stereotype. Similarly the female athlete stereotype was described as energetic, hardworking, dedicated, co-ordinated and sports-oriented.

Yet all but three of the attributes that subjects used to describe women in general were traditionally feminine traits. It appears that asking people to describe a single female stereotype elicits traditional cultural prescriptions of the female role. Asking people to describe different kinds of women, however, allows them to depart from such prescriptions and draw on their own experiences or a variety of cultural prescriptions. The traditional

stereotype still emerges, in the form of the housewife role, which, in fact, shared more attributes in common with women in general than any other role (30 per cent). However, other quite distinct roles also emerge.

Furthermore, it would appear that these untraditional roles for women may not be perceived as negatively as most sex-role stereotype research would suggest. When a random sample of the subjects in this investigation (n=60) were asked to rank order the desirability of the five stereotypic roles for women, both males and females ranked career woman as the most desirable role, followed by housewife and then athlete. Interestingly, men and women showed opposite rankings of the remaining two roles, with women ranking sex objects and men ranking libbers as least desirable. Earlier data (Study 4) also showed that women listed more negative attributes for sex objects and men listed more negative attributes for libbers. These data are merely suggestive,but they indicate that future research should examine the social desirability and evaluation of these roles and their respective attributes comprehensively.

Finally, then, this investigation adds another dimension to the many criticisms of sex-role research methodology (Brannon,1978;Kelly & Worell,1977; Pedhazur & Tetenbaum,1979). Most studies of sex-role stereotypes use checklist responses rather than self-generated descriptions (Basow,1980; Cicone & Ruble,1978). The former method has been criticized for leading to exaggerated stereotypes since they encourage people to respond on the basis of beliefs

rather than actual experience (Cicone & Ruble,1978); for over-emphasizing attributes that differentiate the sexes since questionnaires focus on male-female differences rather than asking questions on typicality (Cicone & Ruble,1978); for creating "all-or-none", polar distinctions between the sexes since checklists are usually presented in polar form (Basow,1980; Brannon,1978).

This investigation suggests that the commonly held single category female stereotype is more a function of method than reality. When people are not restricted and channeled by the checklist format, they respond with considerably richer and more varied categories than simply "female". Indeed, many subjects in this study indicated that to describe the "typical" woman was most difficult to do. It would seem from a cognitive point of view, that this is too molar a unit to be useful in person descriptions. As demonstrated in Study 5, people are much more likely to use a less inclusive unit, such as housewife or career woman, that conveys richer, more detailed information and hence is easier to describe. People will also describe some of these roles in traditionally "masculine" terms. It may be that the polar distinctions between the sexes very much depend on role rather than sex.

Whether or not the social cognitive analysis employed here will reveal that the extent and polarity of sex-role differences has been over-emphasized by traditional methodologies remains to be seen. Future research, replicating the methods used here for male stereotypes, must

first be completed. This research has already begun. Exploration of the male sex-role stereotype per se is important as well as comparisons with the data gathered here on the female sex-role stereotype. Moreover, these data will enable incorporation of male sex-role(s) attributes with those for female sex-roles on an empirical scale.

Refinement and validation of such a scale may overcome many of the difficulties inherent in present scales that are based solely on checklist methodologies and researchers' "a priori" views of sex-roles. Extension of this research with representative age, demographic and socio-economic groups is an important focus for the future. Such work should contribute to a more ecologically valid conceptualization and measurement of sex-role stereotypes than is currently available.

2. The Social Cognitive Analysis of Stereotypes

The series of studies reported here also provide converging evidence for the utility of a cognitive approach to the study of stereotypes. The emphasis of this approach on the limitations of the information processor is an important one. It focuses on the mechanisms people employ to cope with vast amounts of information input and the biases inherent in such mechanisms. One of the most pervasive of these mechanisms, categorization, is also an essential element to stereotyping. Differential perception and behaviour evident in stereotyping involves categorizing

people into a variety of groupings. Consequently, this approach leads to a view of stereotypes as categorization schemas with attributes such as sex or race tagged to category labels or prototypes.

The present research supports this conceptualization of stereotypes. The adaptation of Rosch's(1976) and Cantor's(1977) methods to delineate the categories that comprise stereotypic schemas proved successful. The free format methodology used here, which did not restrict either the number or type of categories, yielded remarkably consistent results. Moreover, the structural organization of the stereotypic categories was found to be the same as that reported for other object and person taxonomies (Cantor & Mischel,1979; Rosch, 1976). The converging evidence for the categorization model is therefore impressive. Moreover, the similarity of the organization of the female sex-role stereotype to other person prototypes provides strong evidence for the interpretation of stereotypes as categorization schemas.

Perhaps most importantly, the mediational function of stereotypic categorization schemas was also supported. Such schemas do indeed bias memory toward the stereotype and stereotypic attributes do seem to be grouped together in memory. Such data clearly support the premise of the biasing nature of information processing mechanisms.

Certainly, the present research would warrant the application of the categorization model and methods to other stereotypic areas, such as race and ethnicity. Indeed, such

research would provide much useful information on the stereotypes per se, as well as address questions heretofore not easily raised. In particular, questions concerning the organizational and functional correspondence among different kinds of stereotypes can be explored. It would also be interesting to assess whether or not racial, ethnic or cultural categories are as consensual as sex-role ones, as well as what factors contribute to consensus.

Developmental questions would be particularly interesting to explore from this point of view. For example, do different age groups have different stereotypic schemas? Are they organized and do they function in the same way?

The role of stereotypic categories in the person perception process is perhaps the most important ultimate question here. Initially, what cues activate the stereotype? How is one identified as a member of a stereotypic category? Considerable evidence indicates that stimulus salience is a crucial factor in such perceptions and cues such as sex and race are salient by virtue of their physical prominence and distinctiveness (Hamilton,1979; Taylor & Fiske, 1978). However, what are the salient cues that identify less inclusive, and less distinctive, stereotypic categories, such as housewife or career woman? Some preliminary work on this question has already begun by asking subjects to describe their visual image of a typical housewife, career woman, etc.. Consensus scoring of these data will hopefully reveal some of the visual/ nonverbal

cues that people use to identify these role members. Similar tasks eliciting typical behaviours should identify context cues that are important. Once such cues are identified, then experimental work can be conducted to determine if manipulation of such cues influences role attributions.

The data reported here on stereotypic categorization schemas contribute to the growing body of evidence on stereotypes from a social cognitive perspective (e.g., Hamilton,1976;1979; Taylor et al,1978). There seems little doubt that the conception of stereotypes in terms of normal cognitive processes and the adaptation of cognitive methdology to study same will continue to stimulate important questions and data.

Traditional conceptions of stereotypes have given little attention to the cognitive processes that may produce differential perception of social groups. Since its introduction, the term stereotype has been viewed as involving rather unique processes that presumably set stereotypes apart from other kinds of beliefs (Brannon,1978; Brigham,1972; Hamilton,1979). Researchers have emphasized this uniqueness, arguing that the development and use of stereotypes has motivational roots and is of functional value to the individual (Hamilton,1979). Such forces have been assumed to influence the individual's cognitive functioning such that stereotyping is viewed as the product of erroneous and atypical thought processes.

Research from the social cognitive point of view

indicates that stereotypes do not necessarily involve distorted thought processes. Indeed, the growing body of research provides convincing, converging evidence that stereotypes can result simply from cognitive mechanisms involved in normal information processing.

This is not to deny the importance of social learning experiences or motivational factors in stereotypes. Indeed, it would seem likely that much of what people believe and feel about stereotyped groups is acquired through social learning processes. Moreover, motivational factors may well facilitate the acquisition and/or maintenance of prevailing stereotypes. However, even when such processes play a central role, their ultimate effects are necessarily mediated by the perceiver's cognitive processes. The nature of the mechanisms involved in such mediating processes have been virtually ignored by more traditional approaches. The focus of the social cognitive perspective on these mechanisms is therefore complementary to the more traditional research in addressing an area essential to an understanding of stereotypes.

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Appendix I

APPENDIX I

Table 1. Number and percentage(*) of subjects, by sex, who classified women using types, traits or both types and traits

Sex	Classification Category			
	Type	Trait	Both	Total
Male	25(29)	32(38)	28(33)	85
Female	39(36)	30(28)	39(36)	108
Total	63(32)	63(32)	67(35)	193

X^2 = 2.23, df=2, not significant (*)percentage in bracket

Table 2. Means, Standard deviations and t-test for number of attributes listed by sex for the classification of women task

Sex	N	Mean No. listed	S.D.	t	df	P
Male	53	8.69	6.44	1.17	129	N.S.
Female	78	7.51	5.11			

Table 3. Means, Standard deviations and t-test for number of types listed, by sex, for the classification-of-women task

Sex	N	Mean No. listed	S.D.	t	df	P
Male	53	4.90	2.79	0.05	129	N.S.
Female	78	4.88	2.11	"	"	

APPENDIX I

Table 4. Categories listed in the middle-level category generation task that did not meet the 50 percent inclusion criterion (reported by less than 10 percent of subjects and listed in order of frequency)

classy women (1)	masculine women (19)
high-class snob	soap-opera sals
lesbians/gays	girl-next-door
divorcees	tramps
married women	entertainers
single women	busybodies
upper-class sophisticates	radicals
bitches	religious fanatics
businesswomen	gossips
old-fashioned types	nags
prostitutes	educated women
hookers	uneducated women
tall women	tomboys
short women	friends
fat women	those concerned-
skinny women	regarding appearance
students	traditional women (34)
conformists (18)	

Reported only once:

jerks	foxy ladies
exhibitionists	prissy types
whores	hussies
artsy-craftsy types	grandma types
modern women	spinsters
holy-rollers	romantics
social butterflies	companions
VIP women	chicks
fakes	young vs old
well dressed vs slobs	nuns
snobs	non-workers
leaders vs followers	submitters vs dominators
homey types	virgins
flirts	individualist vs passive type
upper-class sophisticates	middle-class working women
lower-class rough	achievers vs non-achievers
wives	militants
intellectuals	social climbers
sexists	nature lovers
outdoors types	cover-girl types
exhibitionists	

Appendix II

APPENDIX II

Table 1. Number of subjects who classified housewives, career women, sex objects, women athletes and women libbers on the basis of types, traits or both types and traits, by sex.

SEX: Female

Role Category	Classification Category				
	Types	Traits	Both	No Response	Total
Career women	41	1	4	-	46
Housewives	34	3	8	1	46
Women athletes	36	4	4	2	46
Sex objects	33	6	4	3	46
Women's libbers	21	10	7	8	46

SEX: Male

Role Category	Classification Category				
	Types	Traits	Both	No Response	Total
Career women	38	1	2	-	41
Housewives	30	8	3	-	41
Women athletes	35	3	2	1	41
Sex objects	33	5	3	-	41
Women's libbers	20	9	2	10	41

APPENDIX II

Table 2. Total and mean number of types listed for 5 female roles, by sex

Role Category	Males			Females		
	Total	X	S.D.	Total	X	S.D.
Career women	311	7.58	5.33	278	6.04	3.41
Housewives	95	2.57	1.24	120	2.72	1.21
Women atheletes	177	4.54	2.47	191	4.44	1.21
Sex objects	114	3.00	1.68	100	2.34	1.34
Women's libbers	63	2.03	1.14	80	2.22	1.17
All categories	760	4.08	3.55	769	3.63	2.99

APPENDIX II

Table 3. Subcategories listed for the five female roles for each sex. (Not listed in order of frequency, but rather to indicate correspondence between female and male responses).

Housewives:	
Male responses	Female responses
cook/ cleaner	cook/ cleaner
caretaker of children	caretaker of children
mothers	mother-type
traditional homemakers	homemakers
working vs non-working wives	part-time vs full-time working wives
housekeepers	traditional women
unpaid workers	domestic type
"pregnant, barefoot and in the kitchen"	"barefoot and pregnant"
those who like it vs those who don't	those who like it vs those who don't
	sloppy type in housecoat and curlers
	active type, ,involved in PTA and community, etc

Libbers:	
Male responses	Female responses
equal rights supporters	equal rights supporters
moderates, committed to cause	moderates, committed to cause
radicals/ extremists	radicals/ extremists
activists	feminists
women in politics	activists
women who put men down	women who hate men
women in society groups	"bra-burners"
self-supporters	masculine/ independent women
business women	career women
hardline Ms. types	single women
women in male jobs	women in men's jobs

APPENDIX II

Table 3.(cont'd) Subcategories listed for the five female roles for each sex. (Not listed in order of frequency, but rather to indicate correspondence between female and male responses).

Career Women:	
Male responses	Female responses
doctor	doctor
teacher	teacher
nurse	nurse
lawyer	lawyer
business executive	business executive
secretary	secretary
policewoman	
politicians	politicians
saleswomen	sales clerks
social workers	social workers
actresses	actresses
scientists	scientists
judges	journalists
designers	bus drivers
professors	professors
accountants	accountants
dentists	hair stylists
models	models
stewardesses	stewardesses
waitresses	waitresses
engineers	engineers
typists	single women
librarians	librarians
educated women	professional women
artists	artists
authoritative women	singers
	women who work for their own fulfillment
	women who work to support the family
	part-time vs full-time

APPENDIX II

Table 3.(cont'd) Subcategories listed for the five female roles for each sex. (Not listed in order of frequency, but rather to indicate correspondence between female and male responses).

Sex Objects:	
Male responses	Female responses
movie stars/actresses	movie stars/ actresses
playboy bunnies	playboy bunnies
models	models
strippers	strippers
blondes	blondes
advertisement girls	advertisement girls
hookers	hookers
center-folds	center-folds
singers	singers
Bo Derek types	Bo Derek types (*)
beautiful women	beautiful women
stewardesses	redheads
belly dancers	belly dancers
brunettes	brunettes
celebrities	pin-up girls
topless waitresses	topless waitresses
dancers	secretaries
intelligent women	healthy women
	flirts/ teasers

(*) Actress star in movie "10" (1981)

APPENDIX II

Table 3.(cont'd) Subcategories listed for the five female roles for each sex. (Not listed in order of frequency, but rather to indicate correspondence between female and male responses).

Women Athletes:	
Male responses	Female responses
swimmers	swimmers
runners	runners
tennis players	tennis players
basketball players	basketball players
volleyball players	volleyball players
gymnasts	gymnasts
skaters	skaters
skiers	skiers
golfers	golfers
divers	divers
wrestlers	wrestlers
coaches	coaches
ballet dancers	dancers
healthy women	healthy women
dancers	olympic stars
field hockey players	hockey players
track and field	track and field
softball players	competitive-types
muscular women	masculine-looking women
women who exercise	women who "work-out" regularly
badminton players	policewomen
soccer players	army women
women who compete	tomboy-types
body builders	"jock"-types
those good at sports	professionals vs amateurs
those who enjoy sports for pleasure	those interested in recreation
those who enjoy sports for beating males	those interested in fitness

Appendix III

APPENDIX III

Table 1. Mean percentage ratings of attributes from the attribute listing task describing WOMEN

Attribute	Female Ss	Male Ss	Overall
caring	71.7	74.6	72.9
loving	73.3	78.1	75.3
passive	55.3	55.0	55.2
gossip	63.8	61.2	62.7
good housekeepers	63.6	64.6	64.0
understanding	68.1	73.8	70.5
worry	65.8	62.3	64.4
friendly	73.3	69.6	71.8
want equal rights	70.6	66.2	68.7
passionate	74.4	75.4	74.8
neatly dressed	70.8	71.2	71.0
maternal	66.6	66.5	66.5
sentimental	69.3	74.2	71.4
social	68.9	71.2	69.8
determined	66.6	66.5	66.6
warm	73.1	75.8	74.2
good cooks	64.6	63.7	64.2
jealous	63.2	63.8	63.5
sensitive	71.5	70.8	71.2
aggressive	50.0	52.3	51.0
forgiving	65.3	64.6	65.0
attentive to appearance	76.8	73.8	75.6
proud	66.7	61.2	64.4
dependent	54.2	57.7	55.6
in inferior position	47.8	57.3	51.8
sexy	55.0	59.2	56.8
feminine	65.2	73.8	68.8
emotional	71.8	76.5	73.8
attractive	61.4	65.8	63.2
like attention	76.8	72.3	74.9
sympathetic	70.9	70.0	70.5
conservative	57.3	57.3	57.3
responsible	71.8	68.1	70.3
self-concious	66.8	67.7	67.2
Following attributes were below 50 percent inclusion criterion on overall ranking:			
nagging	50.1	48.1	49.2
rigid	44.8	44.6	44.7
too domestic	43.1	41.2	42.3
independent	52.8	41.5	48.1

APPENDIX III

Table 2. Mean percentage ratings of attributes from the attribute listing task describing CAREER WOMEN

Attribute	Female Ss	Male Ss	Overall
caring	71.7	74.6	72.9
loving	73.3	78.1	75.3
intelligent	86.6	82.5	84.9
outgoing	76.5	75.4	76.0
college-educated	75.2	77.5	76.2
ambitious	75.9	81.3	78.1
friendly	73.8	70.0	72.2
determined	77.8	79.2	78.4
hard-working	80.3	78.8	79.7
independent	74.6	74.6	75.7
self-confident	75.0	76.7	75.7
believe in equality	81.2	78.3	80.0
demanding	66.8	68.8	67.6
creative	67.8	72.1	69.6
reliable	73.6	75.8	74.6
like their work	70.9	79.2	74.3
well-dressed	73.1	79.2	75.6
interact well w/ others	73.7	75.8	74.1
self-controlled	74.4	73.8	74.1
mature	79.3	79.2	79.2
responsible	80.0	80.0	80.0
energetic	72.9	76.3	74.3
honest	71.6	74.6	72.9
liberated	76.8	75.8	76.4
strong-minded	75.7	75.0	75.4
logical	75.1	79.6	77.0
goal-oriented	75.1	79.6	77.0
domineering	53.8	69.5	60.0
competent	76.9	77.5	77.1
sophisticated	65.6	66.3	65.9
make/ control own money	71.4	79.2	74.6
have power	59.4	58.3	59.0
subject to sexual harassment	56.2	46.7	52.2
very intelligent	71.2	61.7	67.2
active	74.7	72.1	73.6
outside interests	74.8	68.8	72.3
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
less devoted to family	41.2	54.2	46.6

APPENDIX III

Table 3. Mean percentage ratings of attributes from the attribute listing task describing FEMALE ATHLETES

Attribute	Female Ss	Male Ss	Overall
tall	68.1	64.0	66.4
ambitious	82.5	77.7	80.5
non-drinker/smoker	79.4	79.6	79.5
energetic	88.3	83.5	86.3
healthy	90.9	87.2	89.4
sports-oriented	90.4	84.2	87.8
slim	83.0	75.0	79.7
outgoing	79.2	71.2	75.8
intelligent	75.0	69.6	72.7
determined	84.7	79.6	82.8
muscular	74.8	57.7	67.6
flat-chested	56.4	54.6	55.6
aggressive	68.2	67.7	68.0
independent	71.7	61.9	67.6
short hair	67.2	63.1	65.5
strong	79.9	64.6	73.5
believe in equal rights	76.7	60.8	70.6
good sports	69.7	71.9	70.6
sense of humour	60.0	66.9	62.9
co-ordinated	81.3	78.0	79.9
leadership ability	70.0	60.0	65.8
fast	72.5	72.3	72.4
hard-working	84.9	75.4	80.9
dedicated	86.7	71.5	80.3
willing to try new things	74.7	65.8	71.0
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
masculine	42.2	41.5	41.9
loud	44.7	45.0	44.8
pushy	45.3	45.8	45.5
not very intelligent	24.4	26.2	25.2
rough	37.5	37.7	37.6
less capable than men	18.6	46.9	30.5
conceited	35.9	34.2	35.3

APPENDIX III

Table 4. Mean percentage ratings of attributes from the attribute listing task describing SEX OBJECTS

Attribute	Female Ss	Male Ss	Overall
beautiful	80.4	90.4	84.6
good figures	86.1	92.3	88.7
attentive to appearance	89.3	86.0	87.9
fashion conscious	88.6	88.5	88.5
seductive	75.0	79.2	76.8
wear heavy make-up	76.8	66.2	72.4
seek attention	78.6	72.7	76.1
dress seductively	83.8	81.9	83.0
put on an act	70.3	58.8	65.5
flaunt themselves	70.8	66.9	69.2
teasers	61.0	54.6	58.3
long hair	66.7	70.8	68.4
classy image	69.4	69.2	69.4
medium height	64.4	66.2	65.2
unpopular with women	62.5	51.2	57.7
manipulate men	62.8	62.7	62.7
well-dressed	66.2	71.2	68.3
vain	66.3	49.2	59.1
aggressive	52.9	62.3	56.8
bold	59.2	58.1	58.7
outgoing	69.3	71.5	70.2
flirtacious	70.9	61.2	66.8
large breasts	64.2	68.5	66.0
popular	69.6	77.7	73.0
socialize more with men	71.5	75.0	73.0
liberal-minded	59.9	65.0	62.0
promiscuous	55.2	62.7	58.4
sophisticated	52.2	51.9	52.1
confident	67.5	65.4	66.6
morally loose	54.9	58.1	56.2
intelligent	57.9	67.7	62.0
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
dumb blondes	52.8	36.5	46.0
not very intelligent	47.6	41.5	45.1
insecure	44.6	50.8	47.2
poor early background	45.3	43.1	44.4

APPENDIX III

Table 5. Mean percentage ratings of attributes from the attribute listing task describing WOMEN'S LIBBERS

Attribute	Female Ss	Male Ss	Overall
believe in equality	90.5	88.8	89.7
aggressive	75.6	75.4	75.5
want equal rights	93.1	84.6	89.4
determined	81.8	74.2	78.5
strong-minded	81.6	76.6	76.6
independent	77.1	63.8	71.3
outspoken	70.1	60.4	65.9
loud	54.3	66.2	59.4
confident	75.4	62.7	69.9
have double standards	44.2	65.8	53.5
brave	68.5	52.7	61.7
intelligent	74.4	63.5	69.7
knowledgeable	75.4	65.0	70.9
in male occupations	57.1	53.8	55.6
want responsibility	75.7	67.3	72.1
defensive	71.1	60.8	66.6
liberal-minded	70.1	65.8	68.2
adventurous	68.2	66.9	67.7
concerned	70.6	63.5	67.5
courageous	65.5	55.4	61.1
self-motivated	67.5	53.8	61.6
self-satisfied	57.1	40.0	49.7

APPENDIX III

Table 6. Mean percentage ratings of attributes from the attribute listing task describing HOUSEWIVES

Attribute	Female Ss	Male Ss	Overall
bored	55.4	54.3	55.0
patient	67.3	68.8	68.0
do housework	81.3	81.9	81.5
care about children	80.4	81.9	81.1
devoted to family	79.7	79.6	79.7
restless	56.0	54.8	55.4
have little social life	49.3	50.0	49.6
worry	65.9	65.0	65.5
tolerant	69.3	68.8	69.1
hardworking	71.4	73.8	72.4
easily depressed	50.3	52.3	51.1
frustrated	46.5	54.2	49.7
lack fulfillment	56.0	62.7	58.8
moody	49.9	51.2	50.4
watch soaps	74.4	68.8	72.1
tidy	73.2	71.5	72.5
understanding	67.8	70.8	69.0
gentle	71.9	73.1	72.4
enjoy cooking/ housekeeping	64.2	64.6	64.4
do committee work	52.1	51.5	51.9
determined	56.4	57.7	56.9
loving	75.9	72.7	74.6
visit neighbours alot	63.5	62.7	63.2
well-organized	68.8	66.2	67.7
caring	72.6	76.9	74.4
busy	71.8	72.7	72.2
unselfish	65.1	70.8	67.4
responsible	73.4	70.6	72.2
under-educated	51.1	52.3	51.6
need appreciation	79.7	76.5	78.4
have sense of humour	67.5	62.3	65.3
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
against men	53.1	43.8	49.1
hostile	45.6	53.8	49.2
offensive	46.4	51.2	48.4
extreme	41.4	44.6	42.8
radical	45.5	52.3	48.5
politically-active	52.2	38.8	46.4
want more than equal	40.4	41.5	40.9

APPENDIX III

Table 7. Mean percentage ratings of attributes from the attribute listing task describing MOVIE STARS

Attribute	Female Ss	Male Ss	Overall
caring	71.7	74.6	72.9
loving	73.3	78.1	75.3
good looking	77.7	76.5	77.2
marriage breakdowns	76.6	68.1	73.0
snobbish	61.1	53.8	58.1
sexy	67.8	66.3	67.2
rich	84.3	78.5	81.9
intelligent	73.6	73.8	73.7
glamorous	65.3	70.4	67.4
conceited	57.2	59.2	58.1
young	56.8	63.1	59.5
well-dressed	75.6	80.4	77.6
brave	60.6	60.8	60.6
talented	76.4	75.8	76.1
artificial	59.7	58.8	57.7
good figures	71.4	73.5	72.3
talkative	59.2	64.2	61.3
sophisticated	63.6	61.5	62.7
strong	57.2	50.8	54.5
flexible	58.8	59.2	60.6
open-minded	66.4	65.4	66.0
self-centred	53.3	55.8	54.4
good personalities	60.3	65.4	62.4
like attention	77.2	73.1	75.5
outgoing	75.8	75.4	75.6
overworked	76.5	64.2	71.4
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
no self-respect	27.2	33.8	30.0
fickle	43.3	50.0	46.2
nervous	43.0	40.4	42.0

APPENDIX III

Table 8. Mean percentage ratings of attributes from the attribute listing task describing PLAYBOY BUNNIES

Attribute	Female Ss	Male Ss	Overall
goodlooking	85.8	91.5	88.2
not shy	87.2	85.0	86.3
bold	76.0	74.9	75.5
good figures	92.6	93.7	93.1
sexually active	88.1	88.5	88.2
fun loving	78.8	82.7	80.4
outgoing	77.1	79.6	78.2
seductive	81.6	80.0	80.9
dress seductively	74.4	85.4	79.0
aggressive	57.6	59.6	58.4
conceited	63.6	60.0	62.1
sexually open-minded	85.3	79.6	82.9
nice personalities	63.3	70.0	66.1
like attention	83.6	76.2	80.5
young	89.7	86.2	88.2
heavy make-up	71.3	56.9	65.3
forward	66.4	71.2	68.4
confident	69.4	66.5	68.2
friendly	68.3	73.8	70.5
extraverted	55.6	70.0	61.3
morally-loose	58.1	64.2	60.6
sexually knowledgeable	84.4	77.6	81.6
egotistical	60.3	51.5	56.6
party-going	75.2	75.4	75.3
tease men	68.6	65.0	67.1
use sex for money	57.2	40.4	50.2
at ease with men	82.7	76.9	80.3
drink/ smoke	71.1	70.4	70.8
single	78.0	84.2	80.6
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
not intelligent	44.7	45.8	45.2
dumb blondes	52.8	35.4	45.5
insecure	38.3	48.5	42.6
no self-respect	39.6	31.5	36.2
can't think for themselves	39.4	40.8	40.0
not liberated	47.8	43.5	46.0

APPENDIX III

Table 9. Mean percentage ratings of attributes from the attribute listing task describing FEMALE TEACHERS

Attribute	Female Ss	Male Ss	Overall
patient	71.9	70.8	71.5
understanding	70.0	68.5	69.4
intelligent	80.6	77.3	79.2
sympathetic	67.5	68.3	67.8
neat	71.7	74.6	72.9
able-to-control	69.7	61.7	66.5
friendly	72.2	73.5	72.7
responsible	78.6	76.2	77.5
competent	73.6	70.4	72.3
well-organized	74.7	77.3	75.8
well-groomed	75.8	76.2	76.0
good-with-young	72.9	73.8	73.3
helpful	70.4	76.9	73.2
goal-oriented	67.2	70.8	68.7
hard-working	72.5	76.5	74.2
dedicated	71.9	74.6	73.1
efficient	73.2	72.7	73.0
independent	63.9	55.8	60.5
trustworthy	69.7	76.3	72.3
like their job	69.7	75.4	72.1
well-spoken	74.4	75.8	75.0
tolerant	68.9	62.7	66.3
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
nervous	35.6	42.7	38.5

APPENDIX III

Table 10. Mean percentage ratings of attributes from the attribute listing task describing FEMALE DOCTORS

Attribute	Female Ss	Male Ss	Overall
intelligent	92.8	90.8	92.0
kind	60.9	69.1	64.0
outgoing	71.4	73.8	72.3
mature	85.0	83.3	84.3
independent	83.3	71.7	78.7
single	58.6	56.7	57.8
persistent	71.2	67.5	69.7
aggressive	62.9	63.8	63.3
strong emotionally	77.5	59.2	70.2
goal-oriented	83.6	82.1	83.0
hardworking	88.8	86.3	87.8
confident	87.6	81.7	85.2
determined	86.6	85.0	85.9
ambitious	84.1	82.5	83.5
dedicated	85.2	82.9	84.3
provide psych.support	73.4	74.2	73.7
capable	85.3	86.3	85.7
efficient	85.2	82.9	84.3
rational	84.4	79.2	82.3
brave	80.1	72.5	77.1
rich	72.1	71.3	71.8
self-controlled	77.6	80.4	78.7
sensible	83.2	82.5	82.9
gentle	75.0	72.1	73.8
work comes first	72.4	62.9	68.4
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
little social life	52.5	41.0	47.9

APPENDIX III

Table 11. Mean percentage ratings of attributes from the attribute listing task describing FEMALE RUNNERS

Attribute	Female Ss	Male Ss	Overall
healthy	91.3	88.8	90.3
competitive	87.5	79.9	84.3
active	89.3	80.8	85.7
outgoing	81.1	66.5	75.0
sense of achievement	81.7	75.8	79.2
ambitious	80.4	71.5	76.7
have proper diet	88.4	80.0	84.9
strong-willed	86.4	78.8	83.2
dedicated	88.5	76.5	83.3
independent	77.2	59.2	69.7
tall	71.6	58.8	66.2
strong	82.8	62.3	74.2
determined	85.4	81.2	83.6
proud	70.8	62.3	67.3
pro equal rights	68.4	55.0	62.8
non-smoker/ drinker	88.1	81.9	85.5
hard-worker	88.8	82.2	86.0
short hair	70.5	62.7	67.2
muscular	76.7	56.2	68.1
intelligent	78.3	70.0	74.8
self-disciplined	84.7	76.9	81.4
self-controlled	81.9	72.7	78.1
don't use make-up	50.8	52.1	51.4
liberated	70.3	55.8	64.2
strive for perfection	77.4	65.0	72.2
involved in other activities	63.3	67.7	65.2
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
masculine	47.5	34.2	41.9
boring	34.8	35.5	35.1
egotistical	39.3	37.3	38.5
limited social life	50.0	38.8	45.5

APPENDIX III

Table 12. Mean percentage ratings of attributes from the attribute listing task describing FEMALE SWIMMERS

Attribute	Female Ss	Male Ss	Overall
determined	88.1	83.5	86.1
muscular	83.6	66.2	76.3
healthy	91.1	86.5	89.2
competitive	91.9	84.6	88.8
strong	88.3	80.4	85.0
limited social life	68.6	57.3	63.0
have proper diet	85.7	81.2	83.8
short hair	80.8	80.4	80.6
ambitious	79.1	79.2	79.2
tall	63.8	71.2	66.9
have endurance	85.9	76.5	82.0
cooperative	69.7	77.5	73.0
hardworking	83.7	83.1	83.5
intelligent	79.3	75.0	77.5
don't drink/smoke	78.1	77.3	77.7
confident	80.0	77.3	78.9
disciplined	86.7	81.2	84.4
liberated	69.7	65.8	68.1
good sports	73.9	76.9	75.2
not domestic	54.7	63.5	58.4
good figures	67.6	73.5	70.0
flat-chested	53.8	56.2	54.8
health nuts	58.5	53.5	56.4
well co-ordinated	78.4	80.8	79.4
strong sex drive	60.6	53.1	57.3
active socially	56.5	51.9	54.6
good in other sports	66.9	75.4	70.5
enjoy fame	66.4	75.0	70.0

APPENDIX III

Table 13. Mean percentage ratings of attributes from the attribute listing task describing MODERATES COMMITTED TO EQUAL RIGHTS

Attribute	Female Ss	Male Ss	Overall
independent	65.8	70.0	67.6
want equal rights	72.4	72.7	72.5
assertive	64.7	69.2	66.6
well-informed	62.8	64.2	63.4
dress smartly	66.9	63.8	65.6
want rights for all	71.6	70.8	71.3
liberal-minded	65.9	67.7	66.7
educated	72.3	69.2	71.0
outspoken	57.8	62.3	59.7
confident	62.8	63.1	62.9
rely partially on males	50.7	53.6	51.9
objective	60.0	58.5	59.4
try to prove equal to men	63.1	61.9	62.6
will defend beliefs	71.4	71.2	71.3
resent chauvinism	75.9	70.4	73.7
respect men too	66.9	64.3	65.9
ambitious	65.3	69.2	66.8
have full-time jobs	58.2	65.8	61.3
intelligent	74.6	63.3	70.1
aggressive	49.6	68.8	57.3
believe in home & work	70.6	61.3	66.8
opposed to traditicnal roles	58.8	66.7	61.9
affiliate with women	59.2	67.1	62.3
accept courtesy from either sex	70.9	66.3	70.0
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
politically active	41.1	46.2	43.2
don't have a family	40.5	41.3	40.8

APPENDIX III

Table 14. Mean percentage ratings of attributes from the attribute listing task describing RADICAL SUPPORTERS OF WOMEN'S RIGHTS

Attribute	Female Ss	Male Ss	Overall
outspoken	76.9	76.2	76.6
determined	83.0	78.5	81.1
unmarried	58.8	66.5	62.1
independent	78.2	71.9	75.5
want equality	88.4	86.8	87.8
aggressive	70.0	78.8	73.7
opposed to male/female roles	78.6	71.5	75.6
confident	76.9	71.5	74.7
outgoing	80.8	75.8	78.2
ambitious	76.4	76.6	76.5
educated	75.4	73.5	74.6
intelligent	75.8	75.0	75.5
strong-minded	78.4	78.8	78.6
act superior	49.2	55.0	51.6
dedicated	72.5	73.1	72.7
believe in change	80.5	78.8	79.8
career-oriented	79.7	76.5	78.4
emotional	48.3	61.5	53.9
strong-voiced	75.4	75.4	75.4
liberal-minded	79.2	70.0	75.3

APPENDIX III

Table 15. Mean percentage ratings of attributes from the attribute listing task describing COOK-CLEANERS

Attribute	Female Ss	Male Ss	Overall
hardworking	76.1	73.5	75.0
child-oriented	76.4	77.7	76.9
like homemaking	75.0	63.1	70.0
soaps	70.0	67.7	69.0
kind	76.4	71.2	71.2
loving	76.9	75.4	76.3
caring	78.3	75.0	76.9
tolerant	74.4	60.4	68.5
energetic	68.3	66.2	67.4
dominated	60.0	53.8	57.4
responible	68.3	71.2	69.5
dedicated	70.6	66.9	69.0
efficient	72.5	72.3	72.4
tidy	78.1	73.1	76.0
content	60.0	59.2	59.7
patient	73.1	63.8	69.2
not outgoing	53.2	49.2	51.5
careful	74.2	68.5	71.8
unselfish	73.1	66.9	70.5
dependent	56.9	61.2	58.7
not ambitious	50.8	53.3	50.8
particular	64.1	60.0	62.4
under-educated	51.1	59.2	54.5
easily satisfied	62.2	58.5	60.6
unappreciated	55.8	63.8	59.2
passive	57.2	49.2	53.9
helpful	69.7	66.5	70.7
friendly	77.5	68.8	73.9
thrifty	78.9	66.5	73.7
traditional	63.3	68.8	65.6
visit neighbours alot	62.8	65.0	63.7
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
homely	44.7	51.2	47.4
bored	44.2	47.8	45.7
narrow-minded	45.0	47.7	46.1
nagging	44.4	46.2	45.1
quiet	53.1	41.9	48.4

APPENDIX III

Table 16. Mean percentage ratings of attributes from the attribute listing task describing CARETAKERS OF CHILDREN

Attribute	Female Ss	Male Ss	Overall
understanding	80.4	80.8	80.6
patient	79.6	73.8	77.2
loving	82.8	82.9	82.8
kind	84.4	81.7	83.3
responsible	84.7	81.3	83.3
protective	83.0	80.4	82.0
caring	84.6	82.9	83.9
strict	65.3	67.9	66.3
careful	77.7	79.2	78.3
gentle	79.1	80.4	79.6
mature	79.3	81.7	80.3
worry	72.3	75.0	73.4
sympathetic	77.8	77.9	77.8
helpful	79.7	80.4	80.0
tolerant	78.7	71.7	75.9
calm	75.6	71.1	73.8
tender	75.3	77.1	76.0
love sales	74.7	72.9	74.0
knowledgeable re kids	74.4	75.0	74.7
rapport with kids	69.7	68.8	69.3
emotionally stable	80.0	75.0	78.0
self-controlled	63.6	68.3	65.5
dependable	79.4	75.8	78.0
friendly	83.6	78.8	81.7
unselfish	77.4	73.3	75.8
dependent	61.3	65.0	62.8
maternal	78.1	79.6	78.7
easygoing	66.8	75.8	70.4
Following attributes were below the 50 percent inclusion criterion on overall ranking:			
nervous	41.4	51.3	45.3

APPENDIX IV

Example Test Booklet for Category Naming Task

Sex_____

Age_____

Each of the following pages has a short list of attributes that could be used to characterize a particular type of person. Read the list carefully, and then, from the alternatives provided, check the term that you think would be most frequently used to describe that person. (Circle one alternative only)

Do not look through all the pages first. Turn each page only after you have finished it.

Attribute list:

beautiful

good figure

attentive to appearance

fashion-conscious

seductive

heavy makeup

seeks attention

dresses seductively

popular

socializes more with men

The term you would most frequently use to describe this type of person is:

a. a female athlete

b. a woman

c. a sex-object

d. a movie-star

Attribute list:

ambitious

non-smoker/non-drinker

healthy

energetic

sports-oriented

slim

co-ordinated

dedicated

determined

hardworking

The term that you would most frequently use to describe this type of person is:

a. a female runner

b. a female athlete

c. a woman

d. a women's libber

Attribute list:

believes in equality
aggressive
determined
wants equal rights
strong-minded
independent
knowledgeable
wants responsibility
adventurous
defensive

The term that you would most frequently use to describe this type of person is:

a. a woman
b. a women's libber
c. a sex-object
d. a moderate committed to equal rights

Attribute list:

intelligent

college-educated

ambitious

determined

hardworking

mature

responsible

liberated

goal-oriented

competent

logical

The term that you would most frequently use to describe this type of person is:

a. a career woman

b. a woman

c. a female teacher

d. a housewife

Attribute list:

cares about children
devoted to family
does housework
hardworking
tidy
gentle
loving
busy
caring
needs appreciation

The term that you would most frequently use to describe this type of person is:

a. a cock-cleaner
b. a housewife
c. a woman
d. a female athlete

APPENDIX V

Sex-role Scale and Factor Analyses

Sex_____
Age_____

Rate each of the following attributes according to how typical you think each is of housewives. For each scale, circle the number that best represents your opinion. For example, if you think that sincere is moderately typical of housewives, you would circle 6 below:

1 quite atypical — 2 moderately atypical — 3 slightly atypical — 4 average — 5 slightly typical — 6 moderately typical — 7 quite typical

(The numbers below represent these graded steps.)

ambitious	1	2	3	4	5	6	7
believe in equality	1	2	3	4	5	6	7
intelligent	1	2	3	4	5	6	7
beautiful	1	2	3	4	5	6	7
good figures	1	2	3	4	5	6	7
do housework	1	2	3	4	5	6	7
nonsmoker/nondrinker	1	2	3	4	5	6	7
aggressive	1	2	3	4	5	6	7
college-educated	1	2	3	4	5	6	7
care about children	1	2	3	4	5	6	7
energetic	1	2	3	4	5	6	7
determined	1	2	3	4	5	6	7
hardworking	1	2	3	4	5	6	7
attentive to appearance	1	2	3	4	5	6	7
devoted to family	1	2	3	4	5	6	7
healthy	1	2	3	4	5	6	7
strong-minded	1	2	3	4	5	6	7
mature	1	2	3	4	5	6	7
fashion-conscious	1	2	3	4	5	6	7
tidy	1	2	3	4	5	6	7

sports-oriented	1	2	3	4	5	6	7
independent	1	2	3	4	5	6	7
seductive	1	2	3	4	5	6	7
responsible	1	2	3	4	5	6	7
gentle	1	2	3	4	5	6	7
slim	1	2	3	4	5	6	7
defensive	1	2	3	4	5	6	7
liberated	1	2	3	4	5	6	7
wear heavy makeup	1	2	3	4	5	6	7
loving	1	2	3	4	5	6	7
co-ordinated	1	2	3	4	5	6	7
knowledgeable	1	2	3	4	5	6	7
goal-oriented	1	2	3	4	5	6	7
seek attention	1	2	3	4	5	6	7
caring	1	2	3	4	5	6	7
dedicated	1	2	3	4	5	6	7
want responsibility	1	2	3	4	5	6	7
dress seductively	1	2	3	4	5	6	7
competent	1	2	3	4	5	6	7
busy	1	2	3	4	5	6	7
popular	1	2	3	4	5	6	7
need appreciation	1	2	3	4	5	6	7
adventurous	1	2	3	4	5	6	7
socialize more with men	1	2	3	4	5	6	7
confident	1	2	3	4	5	6	7

Table 1. Varimax rotated factor matrix of 45 sex-role scales.

Scale	Factor							Communality
	1	2	3	4	5	6	7	
ambitious	.7017	.0644	-.1892	.1207	.2356	.0457	.1166	.6182
believe in equality	.7438	-.1531	.0917	-.1628	.1212	.1262	.0177	.6426
intelligent	.6429	-.0153	.2989	.1294	.0096	-.1418	-.2233	.5899
beautiful	-.1040	.7911	.0987	.0082	.1691	-.0478	-.1361	.6959
good figure	-.0321	.7942	-.0280	.0724	.3309	-.0559	-.0802	.7569
do housework	-.1369	-.2365	.7119	.0195	-.0821	-.0105	-.0709	.5938
nonsmoker/ nondrinker	.0951	-.0500	.0240	-.0626	.6554	.0809	-.0602	.4558
aggressive	.2967	.0341	-.4023	.2218	.1279	.3652	.0099	.4501
college-educated	.7504	.0976	-.0947	.1020	.0408	-.0418	-.0208	.5958
care about children	.0735	-.0853	.8095	.0068	.0004	.0477	-.1229	.6854
energetic	.3192	.0071	.0627	.5119	.3839	.2080	-.2169	.6057
determined	.6185	.0087	-.0376	.4117	.2260	.1551	-.1435	.6493
hardworking	.3299	-.1919	.2828	.5472	.1984	.1102	-.2551	.6418
attentive to appearance	.2197	.7306	.1856	.0288	-.0394	-.0121	-.0790	.6252
devoted to family	-.0121	-.1021	.8139	-.0871	-.0095	-.0118	-.0679	.6855
healthy	.0656	.2682	.0514	.5009	.5453	-.0239	.0010	.6277
strong-minded	.5462	-.0341	.0097	.2821	.1501	.3281	-.0173	.5097
mature	.4113	.0742	.4622	.3274	-.0576	-.0068	-.2672	.5704
fashion-conscious	.1922	.7958	.1547	-.0726	-.1673	.0212	.0377	.7293
tidy	-.0796	.4609	.4038	.2118	-.1949	-.1168	-.1385	.5686
sports-oriented	.2561	.0545	-.1646	.1525	.6702	-.0716	.1935	.6107
independent	.6168	.0946	-.2235	.3007	.0158	.1466	-.0241	.5522
seductive	-.1391	.6896	-.0593	-.1406	-.0088	.1568	.1090	.5548
responsible	.2274	-.0727	.4752	.4692	-.1426	-.0314	-.2017	.5650
gentle	-.0929	.2975	.7297	.0647	-.0204	-.1085	.0122	.6462
slim	-.0262	.6627	-.0811	.1759	.3840	-.0324	.0408	.6277

Table 1.Con't. Varimax rotated factor matrix of 45 sex-role scales.

Scale	Factor							Communality
	1	2	3	4	5	6	7	
defensive	.2941	.0682	.0371	.1530	-.0506	.6681	-.0258	.5655
liberated	.6472	.0384	-.1343	.0130	.0383	.3576	-.0565	.5710
wear heavy makeup	-.0337	.6338	-.0619	-.2093	-.2839	.1755	.0165	.5622
loving	-.0607	.0824	.7955	.1220	.0532	.0022	.1197	.6755
co-ordinated	.1825	.1068	.0850	.5886	.3227	-.1467	.1253	.5398
knowledgeable	.6836	.0707	.1827	.3011	-.0696	-.0995	.0712	.6162
goal-oriented	.7400	.0295	-.1766	.2683	.1248	.0490	.1585	.6949
seek attention	.0021	.4591	-.0436	-.1208	.0851	.5100	.3441	.6131
caring	-.0014	.0103	.8236	.1217	.0564	.0075	.0614	.7003
dedicated	.2985	-.2544	.2664	.5594	.1302	.1184	.0487	.5711
want responsibility	.5019	-.2180	.1525	.3873	-.1569	.1306	.1635	.5411
dress seductively	-.0434	.7509	-.1271	-.1883	-.1025	.1950	.0691	.6708
competent	.3878	-.1143	.2263	.4747	-.0719	.0373	.0673	.4512
busy	.2150	-.1175	.1856	.6433	-.0906	.1226	.1337	.5495
popular	.0401	.6014	-.0544	.2361	.2633	-.1043	.2937	.5885
need appreciation	-.0686	.1717	.4710	.1972	.0062	.1777	.3924	.4806
adventurous	.4832	.2090	-.2081	.2210	.1207	.0291	.4742	.6097
socialize more with men	.2501	.6483	-.1730	-.0244	-.0741	-.0888	.3089	.6222
confident	.4345	.2215	-.3064	.4656	.0113	-.0365	.1708	.5793
Eigenvalue	8.99	6.50	5.65	2.30	1.31	1.28	1.03	
Variance	20.00	14.40	12.60	5.10	2.90	2.80	2.30	

Table 2. Varimax rotated factor matrix of 37 sex-role scales.

Scale	Factor						Communality
	1	2	3	4	5	6	
ambitious	.0896	.7005	.2200	.1438	.1975	.0368	.6082
believe in equality	-.1288	.7269	.0822	-.1711	.1446	.1483	.6239
intelligent	-.0254	.6754	.3125	.0944	-.0081	-.2094	.6072
beautiful	.7731	-.0897	.1222	.0050	.1636	-.1045	.6584
good figure	.7887	-.0311	-.0033	.0794	.3157	-.0954	.7381
do housework	-.2318	-.1358	.7206	.0232	.0952	-.0193	.6014
nonsmoker/ nondrinker	-.0566	.0898	.0244	-.0467	.6747	.0516	.4720
college-educated	.1070	.7627	-.1005	.0966	-.0003	-.0809	.6192
care about children	-.0973	.0818	.8323	-.0037	-.0028	.0347	.7101
energetic	-.0139	.3532	.0947	.5062	.3605	.1509	.5429
determined	-.0029	.6422	-.0151	.3862	.2175	.1369	.6278
hardworking	-.2189	.3638	.3021	.5088	.1980	.0755	.5755
attentive to appearance	.7170	.2229	.1900	.0153	-.0535	-.0025	.6030
devoted to family	-.1009	-.0086	.8338	.0908	-.0209	-.0136	.7144
healthy	.2650	.0656	.0532	.5144	.5351	.0170	.6287
strong-minded	-.0245	.5323	.0122	.2595	.1848	.3770	.5290
fashion-conscious	.7853	.1801	.1562	-.0899	-.1684	.0227	.7106
sports-oriented	.0905	.2398	-.1887	.2229	.6378	-.0481	.5602
independent	.0782	.6241	-.2202	.2057	.0719	.2025	.5327
seductive	.6980	-.1576	-.0614	-.1565	.0133	.1537	.5642
gentle	.2927	-.1024	.7369	.0633	-.0195	-.0836	.6507
slim	.6724	-.0307	-.0818	.1724	.3841	-.0421	.6388

Table 2.Con't. Varimax rotated matrix of 37 sex-role scales.

Scale	Factor						Communality
	1	2	3	4	5	6	
defensive	.0583	.2853	.0358	.1221	-.0156	.6950	.5844
liberated	.0355	.6246	-.1315	.0022	.0677	.4118	.5829
wear heavy makeup	.6325	-.0498	-.0634	-.2192	-.2699	.2013	.5681
loving	.1056	-.0684	.7973	.1516	.0132	-.0043	.6746
co-ordinated	.1359	.1914	.0596	.6476	.2405	-.1335	.5539
knowledgeable	.0911	.6849	.1607	.3319	-.1402	-.1101	.6452
goal-oriented	.0603	.7331	-.2102	.2885	.0885	.0765	.6785
seek attention	.4649	-.0272	-.0941	-.0254	.0158	.5114	.5072
caring	.0221	.0011	.8229	.1615	.0088	.0035	.7039
dedicated	-.2471	.3136	.2643	.5978	.0629	.1122	.6032
want responsibility	-.2031	.4976	.1260	.4009	-.2016	.1695	.5348
dress seductively	.7529	-.0703	-.1289	-.1805	-.0862	.2217	.6776
busy	-.0973	.2307	.1584	.6957	-.1839	.0967	.6150
popular	.6311	.0093	-.0834	.3269	.1839	-.0854	.5533
socialize more with men	.6812	.2118	-.2006	.0139	-.1102	-.0029	.5616
Eigenvalue	7.40	6.04	4.52	2.25	1.19	1.15	
Variance	20.0	16.30	12.20	6.10	3.20	3.10	